Guidelines	
G48	The design and layout of roads, road reserves, carparks and public open space should optimise water use efficiency and long-term viability of vegetation and public uses through the use of water sensitive urban design (WSUD) initiatives.
G49	Where practical, development should include integrated water management initiatives to diversify water supply, reduce reliance on potable water and increase the utilisation of storm and waste water, contributing to a sustainable and green urban environment.
G50	Development should have regard to relevant policies and strategies being implemented by the responsible authority, Melbourne Water and South East Water, including any approved Integrated Water Management Plan.
G51	Where practical, integrated water management systems should be designed to: – maximise habitat values for local flora and fauna species – protect and manage values of national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth)., particularly within BCS conservation areas in relation to water quality and suitable hydrological regimes (both surface and groundwater) – enable future harvesting and/or treatment and re-use of storm water, including those options or opportunities outlined in **Plan 10: Integrated water management**.
G52	Land required for integrated water management initiatives (such as stormwater harvesting, aquifer storage and recharge, sewer mining) should be incorporated within the precinct open space system as depicted on **Plan 6: Open space and community facilities** where practical and where primary the waterway, conservation or recreation functions are not adversely affected, to the satisfaction of the responsible authority.

Table 8: Stormwater drainage and water quality treatment infrastructure

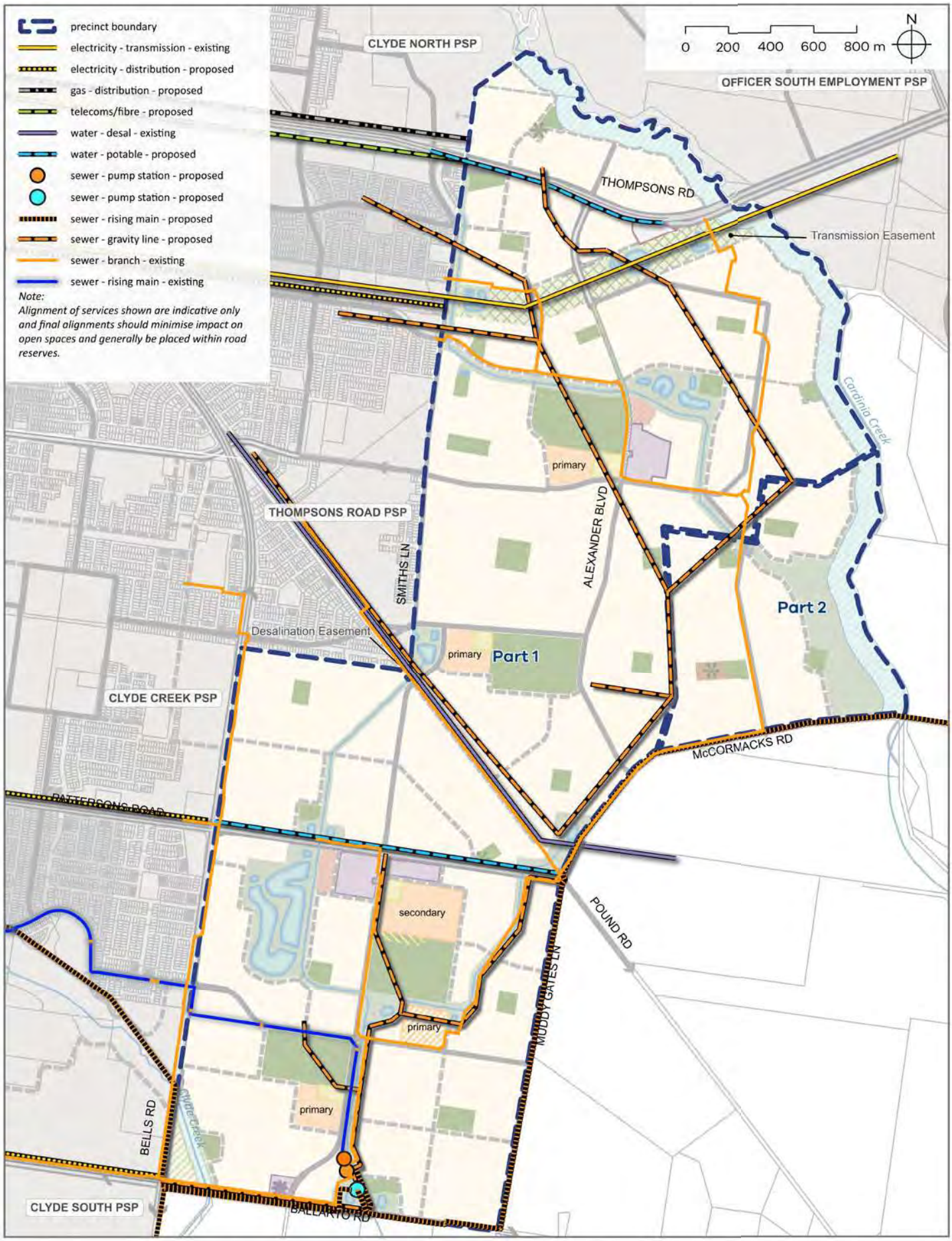
Infrastructure ID	Description	Location	Area (ha)	Responsibility
SB6	Baillieu Creek	East of Smiths Lane	0.4276	CCC
WLC	Baillieu Creek	East of Smiths Lane in transmission easement	1.6217	CCC
WLE	Baillieu Creek	East of Alexander Boulevard in transmission easement	2.3444	CCC
WLH	Baillieu Creek	West of Cardinia Creek in transmission easement	0.9728	CCC
WLF	Baillieu Creek	North of Alexander Boulevard LTC	5.4651	MWC
WL3 and 4	Baillieu Creek	South of Pattersons Road and west of LTC	15.403	MWC
SBRB6b	Baillieu Creek	North of Pound Road adjacent SBRB6a	2.7810	CCC
SB9	Baillieu Creek	West of McCormacks Road, north of Pound Road	4.4800	MWC
SBAR2(E)	Muddy Gates Drain	North of Pattersons Road	0.7838	CCC
SBAR2(W)	Muddy Gates Drain	North of Pattersons Road	0.8386	CCC
SBAX	Muddy Gates Drain	South of Patterson Road LTC, east of ovals	0.5562	CCC
SBAU and SBAT	Muddy Gates Drain	South of Pattersons Road LTC, west of SBAX North	1.4353	MWC
SBAX(BRD)	Muddy Gates Drain	North of Ballarto Road – east side	1.1785	MWC
SBAV	Muddy Gates Drain	North of Ballarto Road – west side	2.2230	MWC
RBWL K (including the reach of waterway from the Part 2 PSP boundary to the outfall)	Baillieu Creek	Cardinia Creek South Part 2	10.2195	MWC
RBWL L	Baillieu Creek	Cardinia Creek South Part 2	6.6110	MWC

CCC Casey City Council

MWC Melbourne Water Corporation

Note: The areas and constructed water corridors identified in this table and shown on **Plan 10: Integrated water management** may be changed or modified to the satisfaction of Melbourne Water and the responsible authority. Management responsibility for drainage and water quality assets may also be subject to change.

Plan 11: Utilities



3.6.2 Utilities

Requirements	
R90	Trunk services must be placed along the general alignments shown on **Plan 11: Utilities**, subject to any refinements as advised by the relevant service authorities.
R91	Before development commences on a stage, plans of the road network are to be submitted showing the location of all: – underground services – driveways/crossovers – street lights – street trees. A typical cross section of each street is also to be submitted showing above- and below-ground placement of services, street lights and trees. The plans and cross sections must demonstrate how services, driveways and street lights will be placed so as to achieve the road reserve width (consistent with the road cross sections outlined in this PSP) and accommodate the minimum level of street tree planting (as outlined in this PSP). If required, the plan and cross sections will nominate which services will be placed under footpaths or road pavement. The plans and cross sections are to be approved by the responsible authority and all relevant service authorities before development commences.
R92	Delivery of underground services must be coordinated, located and bundled (utilising common trenching) to facilitate the planting of trees and other vegetation within road verges.
R93	All existing above ground electricity cables of less than 66KV voltage must be placed underground as part of the upgrade of existing roads.
R94	All new electricity supply infrastructure (excluding substations and cables of a voltage 66KV or greater) must be provided underground.
R95	Above ground utilities must be identified at the subdivision design stage to ensure effective integration with the surrounding neighbourhood and to minimise amenity impacts, and be designed to the satisfaction of the relevant authority. Where that infrastructure is intended to be located in public open space, the land required to accommodate that infrastructure will not be counted as contributions to open space requirements within the *Cardinia Creek South Infrastructure Contributions Plan* and the *Cardinia Creek South Part 2 Infrastructure Contributions Plan*.
R96	Utilities must be placed outside of BCS conservation areas or natural waterway corridors, or on the outer edges of these corridors in the first instance. Where services cannot avoid crossing or being located within a conservation area of natural waterway corridor they must be located to avoid disturbance to existing waterway values, native vegetation, areas of strategic importance to Growling Grass Frog, significant landform features and heritage values, to the satisfaction of the Department of Energy, Environment and Climate Action, Melbourne Water and the responsible authority.
R97	Any road crossings, pathways or open space proposed to be located within the desalination pipe easement must be to the satisfaction of Melbourne Water and the Department of Energy, Environment and Climate Action.
R98	South East Water requires that the developer must enter into an agreement with South East Water requiring the subdivision to be reticulated with a dual pipe recycled water system to provide for the supply of recycled water from a suitable source or scheme to all lots and open space reserves within the subdivision.
R99	Irrespective of whether South East Water has entered into an agreement as contemplated, any plan of subdivision must contain a restriction which provides that no dwelling or commercial building may be constructed on any lot unless the building incorporates dual plumbing for the use of recycled water in toilet flushing and garden watering should it become available.

Guidelines	
G53	Above-ground utilities should be located outside of key view lines and screened with vegetation, as appropriate.
G54	Design and placement of underground services in new or upgraded streets should utilise the service placement guidelines outlined in **Appendix E: Service placement guidelines**.
G55	Utility easements to the rear of lots should only be provided where there is no practical alternative.

3.7 Precinct infrastructure plan and staging

3.7.1 Precinct infrastructure plan

The precinct infrastructure plan at **Appendix A: Precinct infrastructure plan** sets out the infrastructure and services required to meet the needs of the proposed development within the precinct. The infrastructure items and services are to be provided through a number of mechanisms including:

- subdivision construction works by developers
- agreement under S173 of the *Planning and Environment Act 1987*
- utility service provider requirements
- the *Cardinia Creek South Infrastructure Contributions Plan*
- relevant development/infrastructure contributions from adjoining areas
- capital works projects by government agencies and non-government organisations
- works-in-kind projects undertaken by developers on behalf of Victorian Government agencies.

3.7.2 Development staging

Requirements	
R100	Development staging must provide for the timely provision and delivery of: – arterial road reservations – connector streets and connector street bridges – street links between properties, constructed to the property boundary – connection of the on- and off-road pedestrian and bicycle network.
R101	Streets must be constructed to property boundaries where an inter-parcel connection is intended or indicated in the structure plan, by any date or stage of development required or approved by the responsible authority.
R102	Subdivisional development must consolidate utilities into dedicated service corridors within Growling Grass Frog conservation areas.
Guidelines	
G56	Staging of development should be determined largely by the development proposals on land within the precinct and the availability of infrastructure services. Development applications should demonstrate how the development will: – integrate with adjoining developments, including the timely provision of roads and path connections, to a practical extent – provide open space and amenity to new residents in the early stages of the development, where relevant – provide sealed road access to each new allotment – deliver any necessary trunk service extensions, including confirmation of the agreed approach and timing by the relevant service provider – avoid and minimise impacts to BCS conservation areas with regard to the location of essential and other services.
G57	Sports fields, community facilities, local parks and playgrounds should be delivered as early as possible within each neighbourhood and may be delivered in stages.

3.7.3 Subdivision works by developers

Requirements	
R103	Subdivision of land within the precinct must provide and meet the total cost of delivering the following infrastructure: – connector roads and local streets – local bus stop infrastructure (where locations have been agreed in writing by Department of Transport and Planning) – landscaping of all existing and future roads, including the northern boundary of Ballarto Road, and local streets – intersection works and traffic management measures along arterial roads, connector streets, and local streets (except those included in the ICP) – council approved fencing and landscaping (where required) along arterial roads – local shared, pedestrian and bicycle paths along the northern boundary of Ballarto Road, local arterial roads, connector roads, utilities easements, local streets, waterways (including Cardinia Creek) and within local parks including bridges, intersections, and crossing points (except those included in the ICP) – bicycle parking as required in this document – appropriately scaled lighting along all roads, major shared and pedestrian paths, and traversing public open space – basic improvements to local parks and open space (refer open space delivery below) and high voltage transmission easement – local drainage system – local street, pedestrian path or equestrian trail crossings of waterways unless included in the ICP or outlined as the responsibility of another agency in the precinct infrastructure plan – infrastructure as required by utility service providers including water, sewerage, drainage (except where the item is funded through a Melbourne Water development services scheme), electricity, gas, and telecommunications.
R104	Provision of water tapping, potable and recycled water connection points for any potential open space must be installed on the land located within the electricity transmission line easement.

R105 Open space delivery

All public open space (where not otherwise provided via an infrastructure contributions plan) must be finished to a standard that satisfies the requirements of the responsible authority prior to the transfer of the public open space, including but not limited to:

- removal of all existing and disused structures, foundations, pipelines and stockpiles
- clearing of rubbish and environmental weeds and rocks, levelled, top soiled and grassed with warm climate grass (unless conservation reserve requirements dictate otherwise)
- provision of water tapping, potable and recycled water connection points
- sewer, gas and electricity connection points must also be provided to land identified as a sports reserve or district level local park
- trees and other plantings (drought tolerant unless approved by council)
- vehicular exclusion devices (fence, bollards, or other suitable method) and maintenance access points
- construction of minimum 1.5 metre wide pedestrian paths around the perimeter of the reserve, connecting and linking into any other surrounding paths or points of interest, except where shown as a shared paths on **Plan 9: Public transport and path network**
- construction of a 3 metre path along the perimeter of the Cardinia Creek corridor and within the utility easement
- installation of park furniture including barbeques, shelters, tables, local scale play grounds and other local scale play elements such as half basketball courts and hit-up walls, rubbish bins and appropriate paving to support these facilities, consistent with the type of public open space listed in **Table 7: Open space delivery guide**
- installation of paving and planters, furniture including seating, shelters and bollards, tree and other planting, lighting, waterway and water tapping in town squares, urban plazas and urban parks.

R106 Active sports reserves required as identified by an infrastructure contributions plan must be vested in the relevant authority in the following condition:

- free from surface/protruding rocks and structures
- reasonably graded and/or topsoiled to create a safe and regular surface (with a maximum 1:6 gradient)
- bare, patchy and newly graded areas seeded, top-dressed with drought-resistant grass.

In accordance with the *Cardinia Creek South Infrastructure Contributions Plan*, these works are eligible for a works-in-kind credit against a landowner/developer's ICP obligation where they are not considered to be temporary works. Works associated with adjacent road construction (e.g. earthworks for a road embankment) are not eligible for works-in-kind credit.

R107 Any heritage site or BCS conservation area to be vested in the relevant authority must be done so to a standard that satisfies the requirements of that authority. Works required prior to the transfer include, but may not be limited to:

- clearing of rubbish and weeds
- completion of essential repairs to and stabilisation of any structures
- installation of any fencing required to ensure public safety.

Any works carried out must be consistent with any relevant Cultural Heritage Management Plan and/or Conservation Management Plan.

R108 Utilities easement works

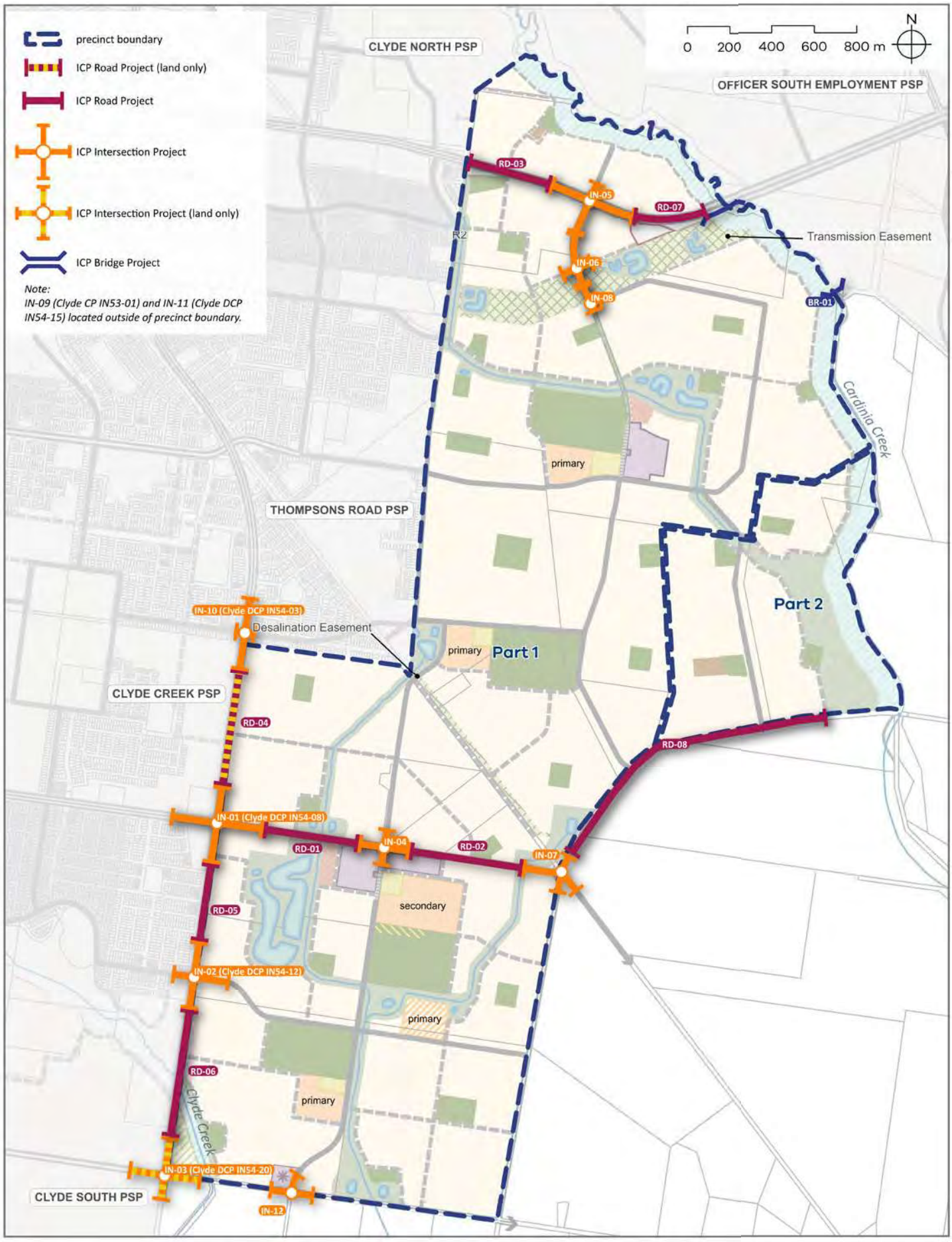
Open space shown in the utilities easement in **Figure 5: Utilities easement concept** which is subject to further detailed design at subdivision stage must be finished to a basic standard by the owner of the property in which the utilities easement is located. These works are to be undertaken prior to the issue of statement of compliance for any subdivision adjacent the utilities easement, and to the satisfaction of the responsible authority and any service authority with rights to the easement. The basic works must include:

- clearing of rubbish and environmental weeds
- clearing of surface/protruding rocks and structures
- reasonable grading and/or application of top soil to create a safe and regular surface (with a maximum 1:6 gradient)
- top-dressing and seeding with drought resistant grass of bare, patchy and newly graded areas
- provision of water tapping
- installation of vehicular exclusion devices (fence, bollards or other suitable method) to the perimeter of the easement including vehicle maintenance access points
- construction of all paths and trails as shown in **Plan 9: Public transport and path network**.

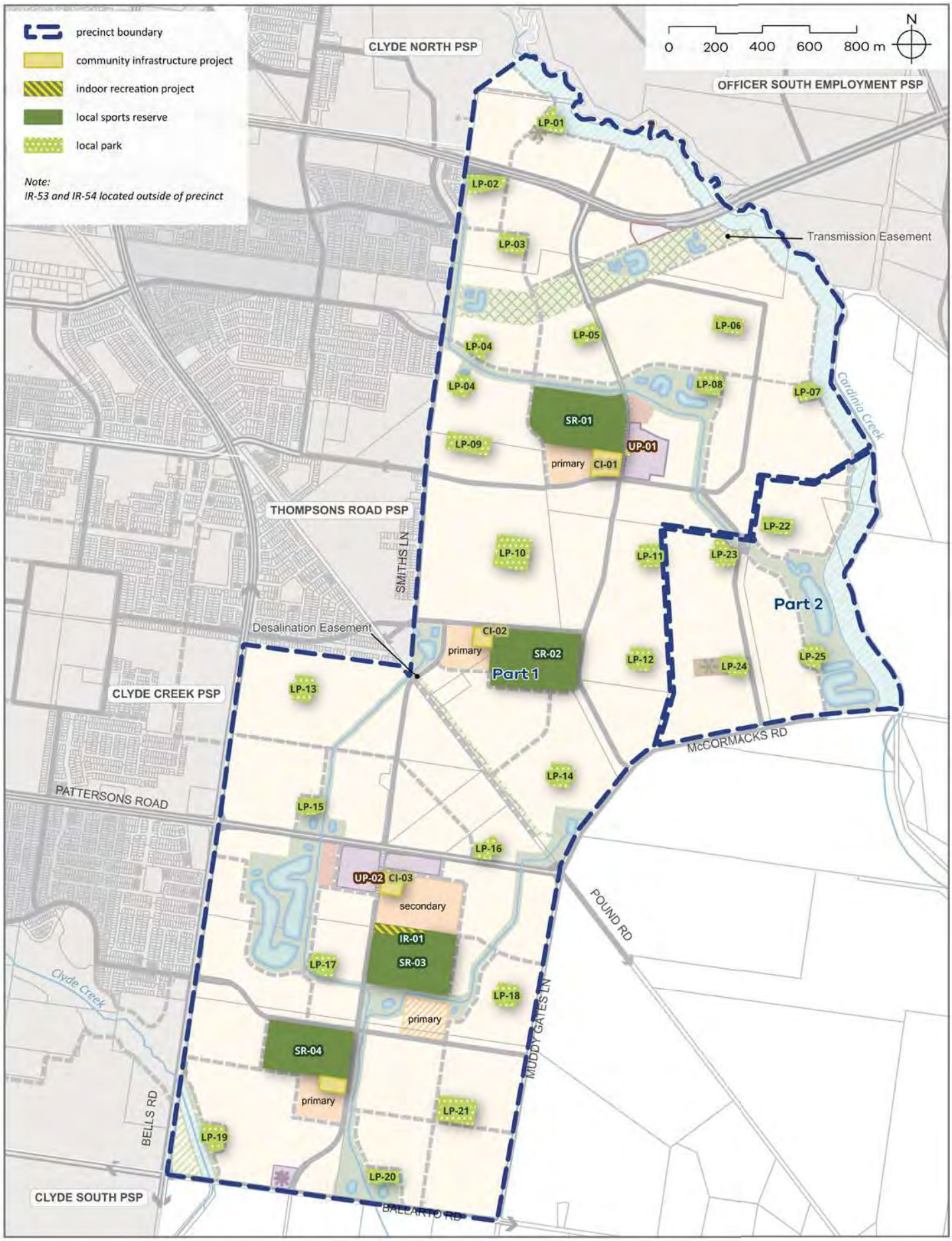
4.0 APPENDICES

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ICP Plan 1: Transport projects



ICP Plan 2: Community and recreation projects



Appendix A: Precinct infrastructure plan

Table 9: Precinct infrastructure plan

			Component included in ICP						
Title	Description	Lead agency	Ultimate land	Ultimate land area (ha)	Interim construction	Ultimate construction	Timing	Apportionment funding source	ICP reference
TRANSPORT									
Road projects									
Pattersons Road from Bells Road to north–south connector road	Purchase of ultimate land and construction of a 2 lane carriageway (interim treatment) (related to Clyde DCP Project IN-54-08)	Casey City Council	Yes	0.51	Yes	No	S–M	100%	RD-01
Pattersons Road from north–south connector road to Muddy Gates Lane/McCormacks Road	Purchase of ultimate land and construction of a 2 lane carriageway (interim treatment)	Casey City Council	Yes	0.56	Yes	No	S–M	100%	RD-02
Thompsons Road from Smiths Lane to Alexander Boulevard	Purchase of ultimate land to create a 41m wide road reserve including all land within PAO3 and construction of a 2-lane carriageway (interim treatment) (related to Clyde DCP Project IN-53-06)	Casey City Council	Yes	1.65	Yes	No	S–M	100%	RD-03
Bells Road from Heather Grove (extension) intersection to Pattersons Road	Purchase of land (relevant part within Clyde Creek South PSP only) to upgrade road reserve from 20m to 41m (balance land delivered via Clyde DCP Projects RD-54-04, IN-54-03 and IN-54-08)	Casey City Council	Yes	1.36	No	No	S–M	100%	RD-04
	Construction of a 2 lane carriage way (interim treatment) (fully funded by Clyde DCP – related projects RD-54-04, IN-54-03 and IN-54-08)	Casey City Council	No	–	No	No	S–M	0%	
Bells Road from Pattersons Road to southern connector road	Purchase of ultimate land and construction of a 2-lane carriageway (interim treatment)	Casey City Council	Yes	0.71	Yes	No	S–M	100%	RD-05
Bells Road from south connector road to Ballarto Road	Purchase of ultimate land and construction of a 2-lane carriageway (interim treatment)	Casey City Council	Yes	1.03	Yes	No	S–M	100%	RD-06
Thompson Road from Alexander Boulevard to Cardinia Creek corridor	Purchase of ultimate land to create a 41m wide road reserve	Casey City Council	Yes	2.05	No	No	M-L	100%	RD-07
Thompson Road from Alexander Boulevard to Cardinia Creek corridor	Construction of 2 lane arterial road (interim treatment)	DTP	No	–	No	No	M-L	–	–

			Component included in ICP						
Title	Description	Lead agency	Ultimate land	Ultimate land area (ha)	Interim construction	Ultimate construction	Timing	Apportionment funding source	ICP reference
McCormacks Road from Pound Road/ Pattersons Road/Muddy Gates Lane intersection to north–south local access street	Construction of a 2 lane connector carriageway to upgrade road reserve from 20m to 25m (ultimate treatment)	Casey City Council	No	–	No	Yes	M	100%	RD-08
Arterial roads	Duplication and ultimate construction of arterial roads and associated intersections	Casey City Council or DTP when declared	No	–	No	No	L	–	–
Intersection projects									
Bells Road/Pattersons Road intersection	Purchase of the land for arterial-arterial signalised 4-way intersection (ultimate), (apportionment related to Clyde DCP Project IN-54-08)	Casey City Council	Yes	1.24	No	No	S–M	50%	IN-01
	Construction of arterial–arterial signalised 4-way intersection (interim treatment)		Yes	–	Yes	No	S–M	100%	
Bells Road/south connector intersection	Purchase of land for intersection (ultimate). (Apportionment related to Clyde DCP IN-54-12)	Casey City Council	Yes	1.10	No	No	S–M	50%	IN-02
	Construction of intersection (interim treatment) Note: Clyde DCP covers 100% of construction costs related to Clyde DCP Project IN-54-12		Yes	–	Yes	No	S–M	0%	
Bells Road /Ballarto Road intersection	Purchase of land for 75% of intersection Note: Clyde DCP covers remaining 25% via related Project IN-54-20	Casey City Council	Yes	0.39	No	No	S–M	75%	IN-03
	Construction of intersection (interim treatment). Note: Clyde DCP covers 100% of construction costs related to Clyde DCP Project IN-54-20		Yes	–	Yes	No	S–M	0%	
Pattersons Road/ north–south connector intersection	Purchase of ultimate land and construction of arterial–connector–main street signalised 4-way intersection (interim treatment)	Casey City Council	Yes	1.10	Yes	No	S–M	100%	IN-04

			Component included in ICP						
Title	Description	Lead agency	Ultimate land	Ultimate land area (ha)	Interim construction	Ultimate construction	Timing	Apportionment funding source	ICP reference
Thompsons Road/ Alexander Boulevard intersection	Purchase of ultimate land, including all land for Alexander Boulevard reservation up to project IN-06. Construction of an arterial–arterial/ connector 4-way intersection (interim treatment) Including interim road construction up to project IN-06	Casey City Council	Yes	2.97	Yes	No	S–M	100%	IN-05
Alexander Boulevard/ key local access street intersection	Purchase of ultimate land including all land for Alexander Boulevard reservation up to project IN-05 and IN-08. Construction of arterial–local access street signalised 4-way intersection with equestrian crossing signals (interim treatment) including interim road construction up to project IN-05 and IN-06	Casey City Council	Yes	1.29	Yes	No	S–M	100%	IN-06
Pattersons Road/ McCormacks Road/ Muddy Gates Lane/ Pound Road roundabout	Purchase of ultimate land and construction arterial connector roundabout (interim treatment)	Casey City Council	Yes	0.45	Yes	No	S–M	100%	IN-07
Alexander Boulevard/ connector roundabout	Purchase of ultimate land including all land for Alexander Boulevard reservation up to project IN-06 Construction of arterial connector roundabout (interim treatment) including interim road construction up to project IN-06	Casey City Council	Yes	0.48	Yes	No	M	100%	IN-08
Thompsons Road/ Berwick–Cranbourne Road intersection	Contribution to ultimate land of one-third of 50% of arterial–arterial signalised 4-way intersection Apportionment related to Clyde DCP Project IN-53-01 and future Casey Fields South and Clyde South ICPs (33%)	Casey City Council	Yes	–	No	No	S–M	17%	IN-09
	Contribution to interim construction of one third of 50% of arterial–arterial signalised 4-way intersection (interim treatment) Apportionment related to Clyde DCP Project IN-53-01 and future Casey Fields South and Clyde South ICPs (33%)	Casey City Council	No	–	Yes	No	S–M	17%	

			Component included in ICP						
Title	Description	Lead agency	Ultimate land	Ultimate land area (ha)	Interim construction	Ultimate construction	Timing	Apportionment funding source	ICP reference
Bells Road/Heather Grove connector intersection	Purchase of ultimate land (relevant part within Clyde Creek South PSP only) for arterial to connector signalised 4-way intersection (balance land delivered via Clyde DCP Project IN-54-03)	Casey City Council	Yes	0.38	No	No	S–M	100%	IN-10
	Construction of intersection (interim treatment) Note: Clyde DCP covers 100% of construction costs via Project IN-54-03)	Casey City Council	No	–	No	No	S–M	0%	
Berwick Cranbourne Road/Ballarto Road intersection	Contribution to ultimate land of one third of 50% of arterial–arterial signalised 4-way intersection Apportionment related to Clyde DCP Project IN-54-15 (50%) and future Casey Fields South and Clyde South ICPs (33%)	Casey City Council	Yes	–	No	No	S–M	17%	IN-11
	Contribution to interim construction of one third of 50% of arterial–arterial signalised 4-way intersection (interim treatment) Apportionment related to Clyde DCP Project IN-54-15 (50%) and future Casey Fields South and Clyde South ICPs (33%)	Casey City Council	No	–	Yes	No	S–M	17%	
Ballarto–north connector	Ultimate land and interimn construction of T signalised intersection (interim treatment)	Casey City Council	Yes	0.38	Yes	No	M–L	100%	IN-12
Bridge projects									
Cardinia Creek shared pedestrian/bicycle/ equestrian bridge	Construction of a shared pedestrian/ bicycle/equestrian bridge (3m internal width) over Cardinia Creek to connect to Banjo Place in Cardinia Shire.	Casey City Council	–	–	–	Yes	M	100%	BR-01
Thompsons Road bridge over Cardinia Creek to Cardinia Shire – interim and ultimate delivery.	Construction of a road bridge over Cardinia Creek to Cardinia Shire – interim and ultimate delivery.	DTP	No	–	No	No	L	–	–
Public transport projects									
Bus services	Delivery of bus services.	DTP	No	–	No	No	S–L	–	–

			Component included in ICP						
Title	Description	Lead agency	Ultimate land	Ultimate land area (ha)	Interim construction	Ultimate construction	Timing	Apportionment funding source	ICP reference
COMMUNITY AND RECREATION									
Community and recreation projects									
Alexander Boulevard family and community centre and integrated community centre	Purchase of land and construction of Level 2 facility, including 3× kindergarten rooms, MCH, community rooms, and additional community spaces.	Casey City Council	Yes	1.50	No	No	S–M	100%	CI-01
Old Pound Road family and community centre	Purchase of land and construction of Level 1 facility, including 3× kindergarten rooms, MCH, and community rooms.	Casey City Council	Yes	0.80	No	No	S–M	100%	CI-02
Pattersons Road integrated community centre	Purchase of land and construction of Level 2 facility, including Neighbourhood House, dedicated social support space, meeting and community spaces.	Casey City Council	Yes	1.00	No	No	S–M	100%	CI-03
Ballarto Road family and community centre	Purchase of land and construction of Level 1 facility, including 3× kindergarten rooms, MCH, and community rooms.	Casey City Council	Yes	0.80	No	No	S–M	100%	CI-04
Pattersons Road indoor sports facility	Purchase of for indoor sports facility (joint use facility with government secondary school)	Casey City Council	Yes	1.00	No	No	S–M	100%	IR-01
Indoor sports facility contribution	Purchase of land for indoor sports facility within Thompsons Road PSP 1053 Note: Balance of land contribution covered by the Clyde DCP (66%) and future Clyde South ICP (17%)	Casey City Council	Yes	1.60	No	No	S–M	17%	IR-53
Indoor sports facility contribution	Purchase of land for indoor sports facility within Clyde Creek PSP 1054. Note balance of land contribution covered by the Clyde DCP (66%) and future Clyde South ICP (17%)	Casey City Council	Yes	6.06	No	No	S–M	17%	IR-54
Open space projects									
Alexander Boulevard local sports reserve	Purchase of land and construction of 2× cricket ovals (3× soccer pitches overlaid), 8× tennis courts, 1× cricket/soccer/tennis pavilion, and basic landscaping	Casey City Council	Yes	11.01	No	No	S–M	100%	SR-01
Old Pound Road local sports reserve	Purchase of land and construction of 2× AFL/ cricket ovals, 2× netball courts, 1× AFL/cricket/netball pavilion, 1× joint use oval with the primary school and basic landscaping	Casey City Council	Yes	11.02	No	No	S–M	100%	SR-02

			Component included in ICP						
Title	Description	Lead agency	Ultimate land	Ultimate land area (ha)	Interim construction	Ultimate construction	Timing	Apportionment funding source	ICP reference
Pattersons Road local sports reserve	Purchase of land and construction of 2× AFL/ cricket ovals, 2× netball courts, 1× AFL/cricket/netball pavilion, and basic landscaping	Casey City Council	Yes	10.00	No	No	S–M	100%	SR-03
Ballarto Road local sports reserve	Purchase of land and construction of 2× cricket ovals with 3× soccer pitches overlaid, 1× cricket/soccer pavilion, and basic landscaping	Casey City Council	Yes	9.00	No	No	S–M	100%	SR-04
Local Park	Purchase of land for local park	Casey City Council	Yes	0.70	No	No	S–M	100%	LP-01
Local Park	Purchase of land for local park	Casey City Council	Yes	1.16	No	No	S–M	100%	LP-02
Local Park	Purchase of land for local park	Casey City Council	Yes	1.01	No	No	S–M	100%	LP-03
Local Park	Purchase of land for local park	Casey City Council	Yes	1.40	No	No	S–M	100%	LP-04
Local Park	Purchase of land for local park	Casey City Council	Yes	0.80	No	No	S–M	100%	LP-05
Local Park	Purchase of land for local park	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-06
Local Park	Purchase of land for local park	Casey City Council	Yes	0.60	No	No	S–M	100%	LP-07
Local Park	Purchase of land for local park	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-08
Local Park	Purchase of land for local park	Casey City Council	Yes	1.65	No	No	S–M	100%	LP-09
Local Park	Purchase of land for local park	Casey City Council	Yes	2.40	No	No	S–M	100%	LP-10
Local Park	Purchase of land for local park	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-11
Local Park	Purchase of land for local park	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-12
Local Park	Purchase of land for local park	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-13
Local Park	Purchase of land for local park	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-14

			Component included in ICP						
Title	Description	Lead agency	Ultimate land	Ultimate land area (ha)	Interim construction	Ultimate construction	Timing	Apportionment funding source	ICP reference
Local Park	Purchase of land for local park	Casey City Council	Yes	0.70	No	No	S–M	100%	LP-15
Local Park	Purchase of land for local park	Casey City Council	Yes	0.85	No	No	S–M	100%	LP-16
Local Park	Purchase of land for local park	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-17
Local Park	Purchase of land for local park	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-18
Local Park	Purchase of land for local park	Casey City Council	Yes	1.00	No	No	S–M	100%	LP-19
Local Park	Purchase of land for local park	Casey City Council	Yes	0.80	No	No	S–M	100%	LP-20
Local Park	Purchase of land for local park	Casey City Council	Yes	2.00	No	No	S–M	100%	LP-21
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.00	No	No	S-M	100%	LP-22
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.00	No	No	S-M	100%	LP-23
Local Park	Purchase of land for local park.	Casey City Council	Yes	1.00	No	No	S-M	100%	LP-24
Local Park	Purchase of land for local park.	Casey City Council	Yes	0.80	No	No	S-M	100%	LP-25
Local Park	Purchase of land for urban plaza	Casey City Council	Yes	0.05	No	No	S–M	100%	UP-01
Local Park	Purchase of land for urban plaza	Casey City Council	Yes	0.05	No	No	S–M	100%	UP-02
Clyde Creek Conservation Area	Land and provision of conservation areas	DEECA	No	–	No	No	M-L	–	–
Cardinia Creek Conservation Area	Land and provision of conservation areas	DEECA	No	–	No	No	M-L	–	–

			Component included in ICP						
Title	Description	Lead agency	Ultimate land	Ultimate land area (ha)	Interim construction	Ultimate construction	Timing	Apportionment funding source	ICP reference
Schools									
Government Primary (Alexander Boulevard P–6)	Land and construction of government school (incorporating potential joint-use oval with adjoining council sports reserve as relevant)	DE	No	–	No	No	S–M	–	–
Government primary (Old Pound Road P–6)	Land and construction of government school (incorporating potential joint-use oval with adjoining council sports reserve as relevant)	DE	No	–	No	No	S–M	–	–
Government secondary (7–12)	Land and construction of government school (incorporating potential joint-use oval and indoor recreation facility with adjoining council sports reserve as relevant)	DE	No	–	No	No	S–M	–	–
Government primary (Southern P–6)	Land and construction of government school (incorporating potential joint-use oval with adjoining council sports reserve as relevant)	DE	No	–	No	No	S–M	–	–
Non-government primary	Land and construction of non-government school	Non-government school provider	No	–	No	No	M	–	–
Other infrastructure									
Drainage infrastructure	Land and construction of precinct drainage infrastructure	Melbourne Water	No	–	No	No	S–L	–	–

DTP Department of Transport and Planning

DE Department of Education

DEECA Department of Energy, Environment and Climate Action

Timing: **S:** 0–5 years

M: 6–15 years

L: 16+ years

Appendix B: Property-specific land budget

Table 10: Cardinia Creek South Part 1 property-specific land budget

Property ID	Total area (ha)	Transport					Community and education				Open space									Other	Total net developable area (hectares)	Net developable area (% of property)
		Arterial road			Other		Education		Community facilities		Service open space						Credited open space					
		Arterial road – existing road reserve	Arterial road – new/ widening/intersection flaring (ICP land)	Arterial road – landscape buffer (CARTS)	Non-arterial road – retained existing road reserve	Non-arterial road – landscape buffer (btw gas easement)	Future government school	Potential non-government school	ICP community facilities	Local indoor recreation (ICP land)	Conservation Area 36	Waterway & drainage (Conservation Area 36)	Waterway and drainage reserve	Heritage reserve – post contact	Utilities easements	Redundant road reserve (local park)	Local sports reserve (ICP land)	Local park (ICP land)	Utilities substations/ facilities (acquired by relevant authority)		
PROPERTY																						
1	5.39	–	–	–	–	–	–	–	–	–	–	3.24	–	–	–	–	–	–	–	2.15	39.91%
2	40.73	–	3.66	0.55	–	–	–	–	–	–	–	6.99	–	0.35	0.07	–	–	0.75	–	28.36	69.64%
3	4.09	–	–	–	–	–	–	–	–	–	–	4.09	–	–	–	–	–	–	–	0.00	0.00%
4	51.07	–	3.70	0.33	–	–	–	–	–	–	–	3.00	3.69	–	5.54	–	–	2.11	1.32	31.37	61.43%
5	197.39	–	1.46	–	–	–	3.51	–	1.50	–	–	9.28	19.47	–	10.00	–	11.01	5.18	–	136.00	68.90%
6	1.23	–	–	–	–	–	–	–	–	–	–	1.23	–	–	–	–	–	–	–	0.00	0.00%
7	64.65	–	–	–	–	0.07	3.13	–	0.80	–	–	–	2.89	–	0.28	–	0.89	3.72	–	52.88	81.78%
8	40.92	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1.44	2.00	–	37.48	91.58%
9	1.37	–	–	–	–	0.05	–	–	–	–	–	–	–	–	0.15	–	–	–	–	1.17	85.59%
10	48.87	–	0.09	–	–	0.45	0.37	–	–	–	–	–	3.20	–	1.62	–	8.54	1.00	–	33.59	68.74%
11	12.14	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.15	–	–	11.99	98.78%
12	43.03	–	1.14	–	–	–	–	–	–	–	–	–	1.98	–	–	–	–	1.00	–	38.91	90.43%
13	39.61	–	1.12	–	–	–	–	–	–	–	–	–	3.28	–	–	–	–	0.70	–	34.51	87.13%
14	1.17	–	0.15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1.02	87.08%
15	9.34	–	0.01	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9.33	99.92%
16	7.08	–	0.04	–	–	–	–	–	–	–	–	–	1.09	–	–	–	–	0.85	–	5.10	72.02%
17	32.60	–	2.28	–	–	–	–	–	–	–	–	–	11.32	–	–	–	–	0.05	–	18.95	58.12%
18	34.04	–	1.23	–	–	–	–	–	–	–	–	–	7.62	–	–	–	–	1.00	–	24.18	71.05%
19	66.81	–	1.22	–	–	–	8.40	2.89	1.00	1.00	–	–	8.12	–	–	–	10.00	1.00	–	33.17	49.65%
20	67.06	–	1.87	–	–	–	3.50	–	0.80	–	3.15	2.84	0.17	–	–	–	9.00	1.00	–	44.74	66.71%
21	64.52	–	–	–	–	–	–	0.61	–	–	–	–	7.06	–	–	–	–	2.80	–	54.05	83.77%
Sub-total	**833.09**	**0.00**	**17.97**	**0.88**	**0.00**	**0.57**	**18.91**	**3.50**	**4.10**	**1.00**	**3.15**	**30.67**	**69.88**	**0.35**	**17.66**	**0.00**	**41.03**	**23.17**	**1.32**	**598.94**	**71.89%**

Property ID	Total area (ha)	Transport					Community and education				Open space								Other	Total net developable area (hectares)	Net developable area (% of property)
		Arterial road			Other		Education		Community facilities		Service open space						Credited open space				
		Arterial road – existing road reserve	Arterial road – new/ widening/intersection flaring (ICP land)	Arterial road – landscape buffer (CARTS)	Non-arterial road – retained existing road reserve	Non-arterial road – landscape buffer (btw gas easement)	Future government school	Potential non-government school	ICP community facilities	Local indoor recreation (ICP land)	Conservation Area 36	Waterway & drainage (Conservation Area 36)	Waterway and drainage reserve	Heritage reserve – post contact	Utilities easements	Redundant road reserve (local park)	Local sports reserve (ICP land)	Local park (ICP land)	Utilities substations/ facilities (acquired by relevant authority)		
ROAD RESERVE																					
R1 (Patterson Road)	1.77	1.77	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.00	0.00%
R2 (Smiths Lane)	5.88	1.67	–	0.01	2.42	–	–	–	–	–	–	0.24	0.43	–	0.31	0.07	–	–	0.00	0.73	12.35%
R3 (Pound Road)	2.57	0.13	–	–	2.03	–	–	–	–	–	–	–	0.26	–	–	–	–	–	–	0.15	5.78%
R4 (Muddy Gates Lane)	1.75	0.09	–	–	1.66	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.00	0.00%
R5 (Ballarto Road)	3.45	3.25	–	–	–	–	–	–	–	–	–	–	0.20	–	–	–	–	–	–	0.00	0.00%
Sub-total	**15.42**	**6.91**	**0.00**	**0.01**	**6.11**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.24**	**0.89**	**0.00**	**0.31**	**0.07**	**0.00**	**0.00**	**0.00**	**0.87**	**5.68%**
Totals Cardinia Creek South Part 1 PSP	**848.51**	**6.91**	**17.97**	**0.89**	**6.11**	**0.57**	**18.91**	**3.50**	**4.10**	**1.00**	**3.15**	**30.91**	**70.78**	**0.35**	**17.97**	**0.07**	**41.03**	**23.17**	**1.32**	**599.82**	**70.69%**

Table 11: Cardinia Creek South Part 2 property-specific land budget

Property ID	Total area (ha)	Open space				Total net developable area (hectares)	Net developable area (% of property)
		Service open space			Credited open space		
		Waterway and drainage (Conservation Area 36)	Waterway and drainage reserve	Heritage reserve – post contact	Local park (ICP land)		
PROPERTY							
5b	2.14	1.03	0.11	–	–	1.00	46.73%
6b	1.28	1.28	–	–	–	–	0.00%
22	40.51	–	0.57	1.36	2.00	36.57	90.27%
23	55.68	8.74	15.64	–	1.80	29.50	52.98%
24	4.27	2.87	0.22	–	–	1.17	27.40%
25	0.09	0.09	–	–	–	–	0.00%
26	0.05	0.05	–	–	–	–	0.00%
27	0.39	0.39	–	–	–	–	0.00%
Totals Cardinia Creek South Part 2 PSP	**104.40**	**14.45**	**16.54**	**1.36**	**3.80**	**68.25**	**65.37%**

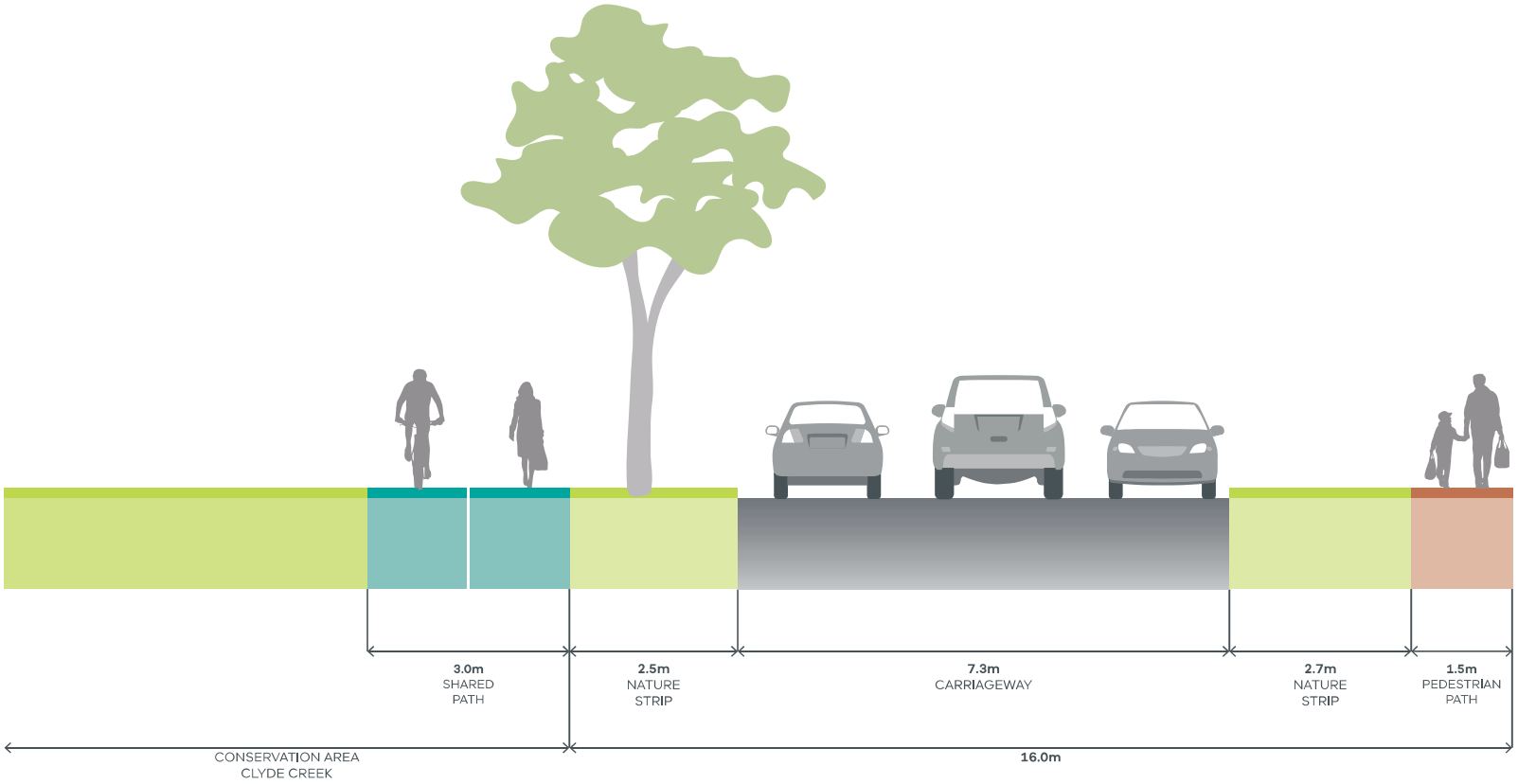
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Streetscape Cross Section 1

Conservation area interface (Clyde Creek)

Growling Grass Frog/Local Access Street Level 1

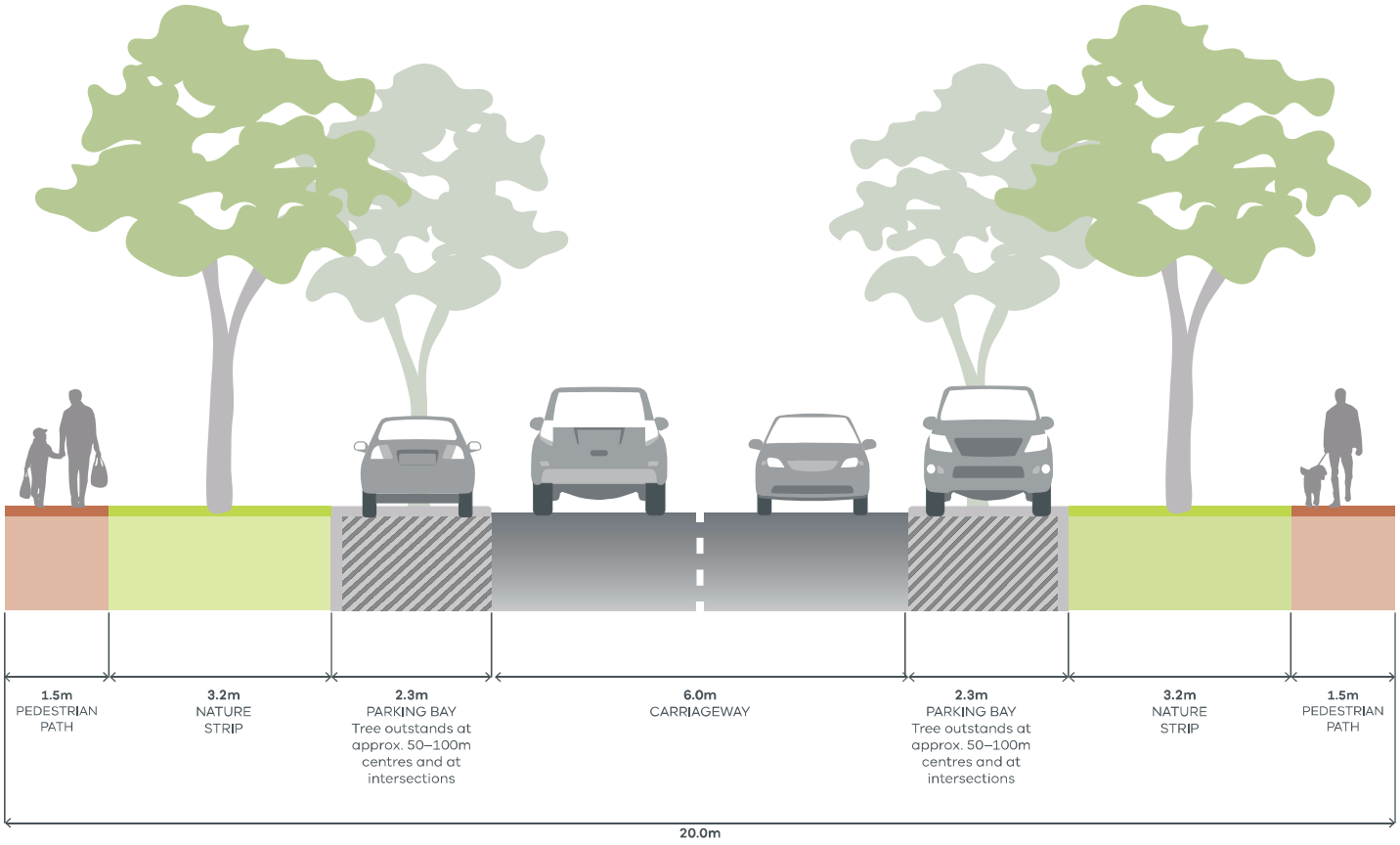


NOTES:

- Conservation Area 36 must be fenced appropriately to protect biodiversity values to the satisfaction of DEECA.
- Street tree planting of a medium to large size appropriate for the width and funtion of the street.
- All kerbs are to be B2 Barrier Kerb per Figure 008 in Engineering Design and Construction Manual for Subdivision in growth areas (April 2011).

Streetscape Cross Section 2

Local Access Street – Level 2 (20m)

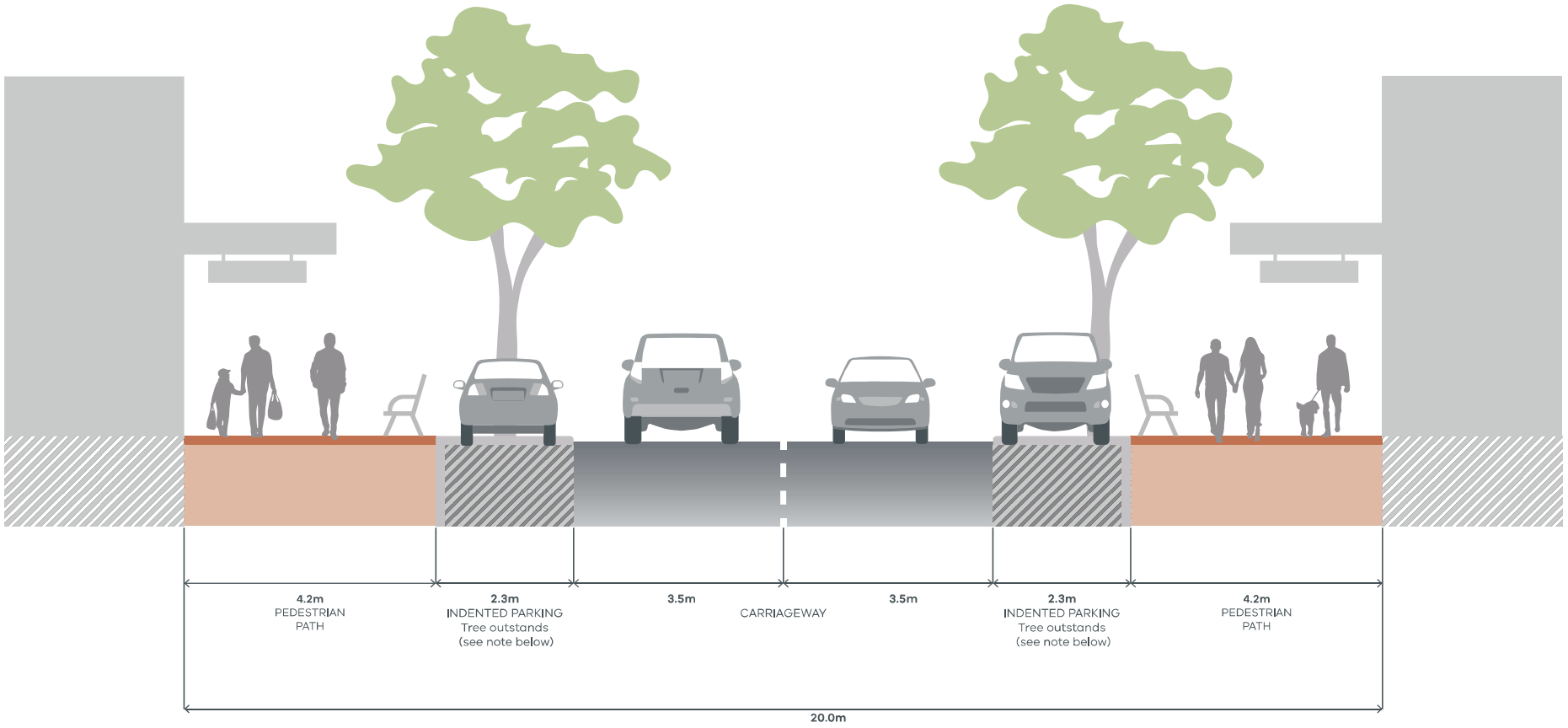


NOTES:

- Street tree planting of a medium to large size appropriate for the width and function of the street.
- All kerbs are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011).
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority.
- Where an off-road two-way bike path is shown asrequired on Plan 8, and it is not agreed by the responsible authority and any other relevant authority to be located within an adjoining open space/drainage, the relevant verge must be widened and configured to match that of a connector road, unless otherwise agreed by the responsible authority.
- Where a shared path is shown as being required on plan 8, and it is not agreed by the responsible authority and any other relevant authority to be located within an adjoining open space/drainage reserve the relevant verge must be widened to accommodate it as follows:
  - 1.5m (to create a 3m shared path) where abutting a school, open space or rear loaded lots
  - 5.5m (made up of an additional 1.5m to create a 3m shared path, and an additional 4m, provided as an offset from lot boundary to the path) where abutting lots with direct vehicle access from the street.

Streetscape Cross Section 3

Main Street (20m)



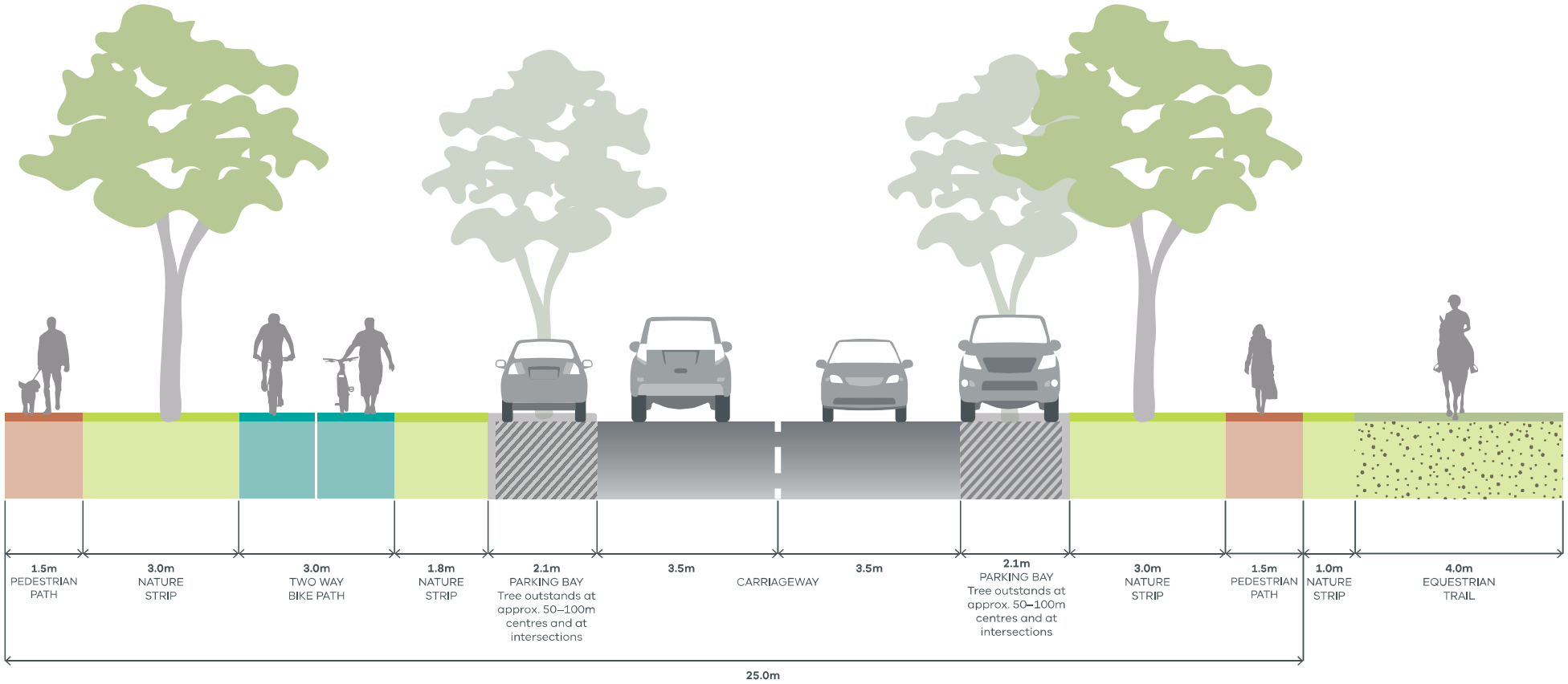
NOTES:

- Bus stops may be provided within the on-street parking area, where required.
- Street tree planting of a medium to large size appropriate for the width and function of the street.
- All kerbs are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011).
- Verge widths may be reduced where main street abuts open space with the consent of the responsible authority.

Streetscape Cross Section 4

Connector Street (25m)

Muddy Gates Lane



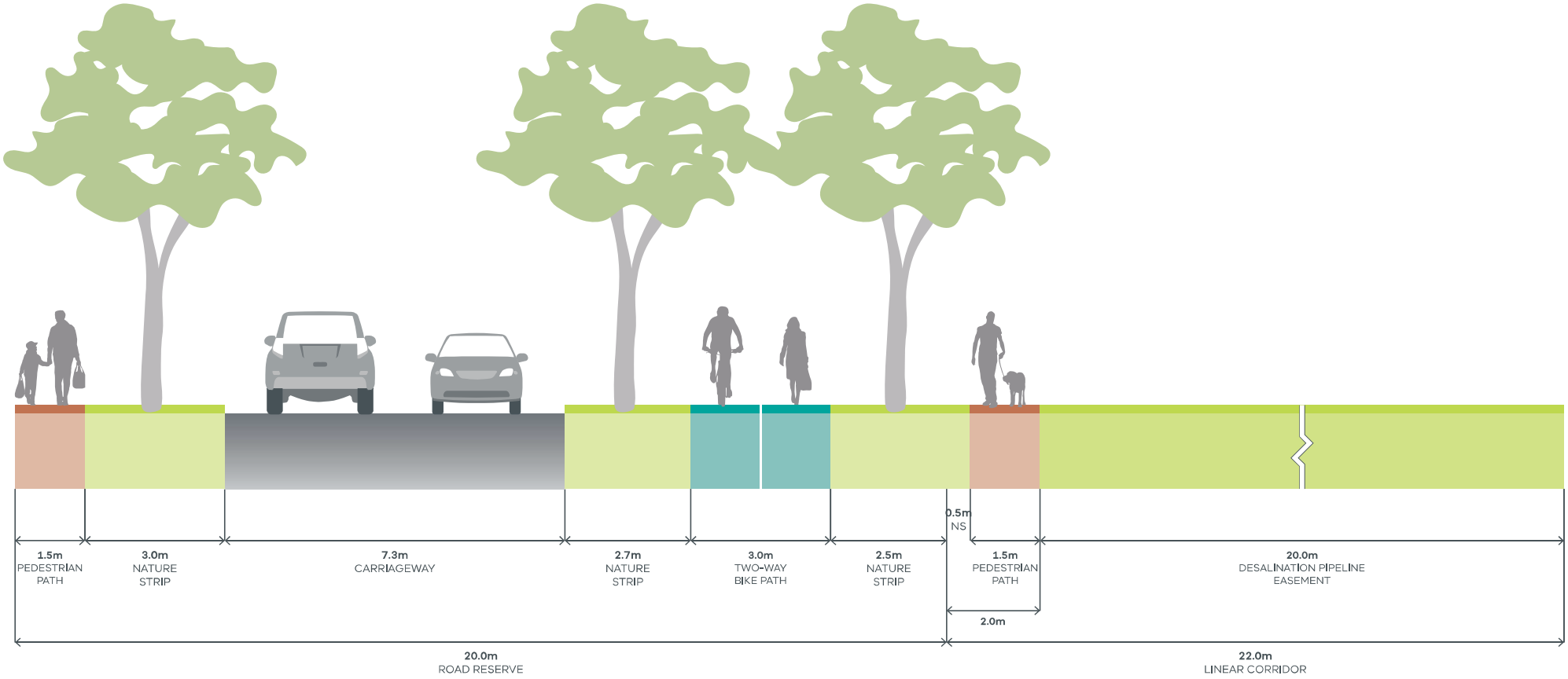
NOTES:

- Street tree planting of a medium to large size appropriate for the width and function of the street.
- All kerbs are to be B2 Barrier Kerb per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011).
- Existing gravel surface of road is to be retained for equestrian trail.
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority.

Streetscape Cross Section 5

Feature Street & Linear Corridor (21m)

Pound Road

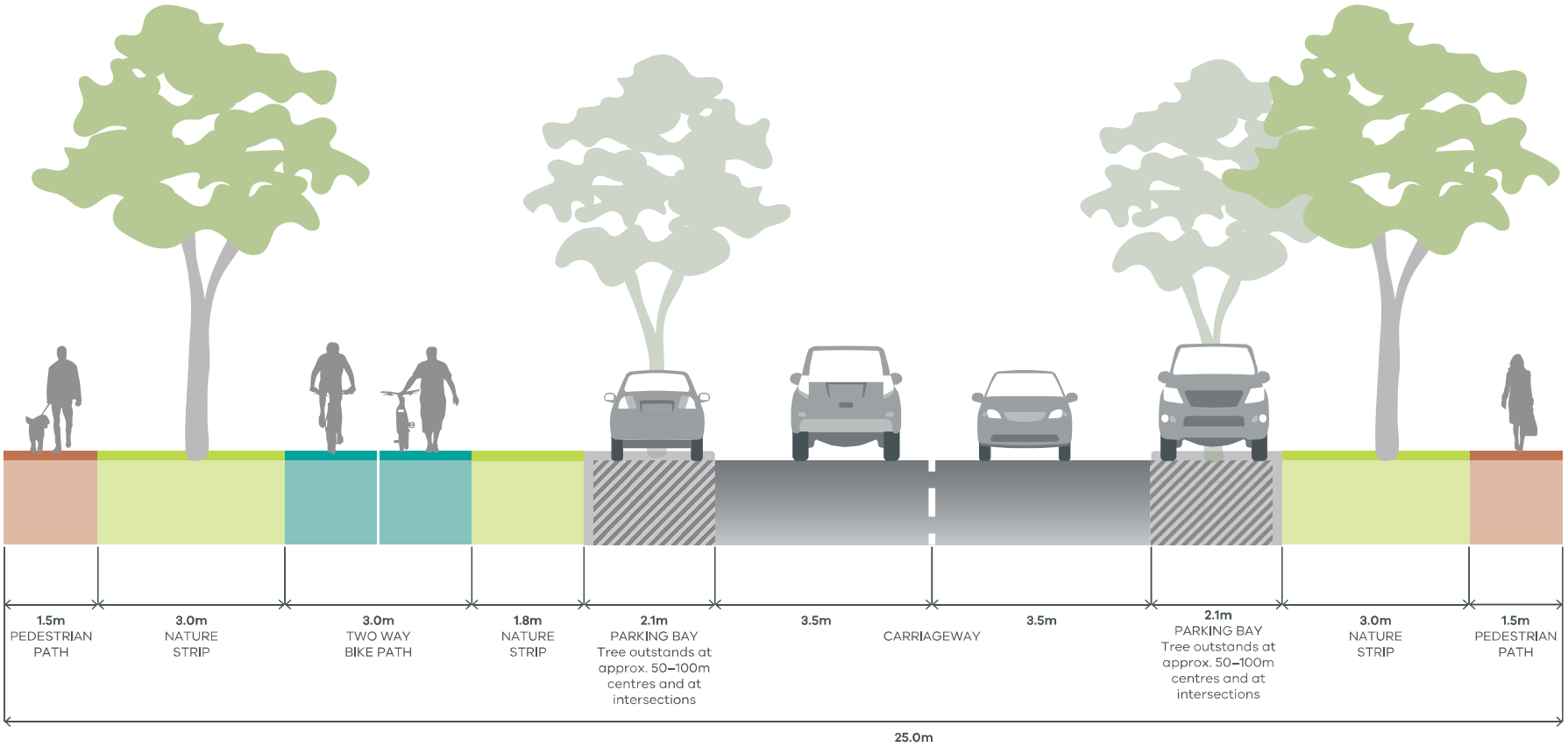


NOTES:

- Street tree planting of a medium to large size appropriate for the width and function of the street.
- All kerbs are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011).
- Where roads abut school drop-off zones and thoroughfares, grassed nature strips should be replaced with pavement. Canopy tree planting must be incorporated into any additional pavement.

Streetscape Cross Section 6

Connector Street (25m)



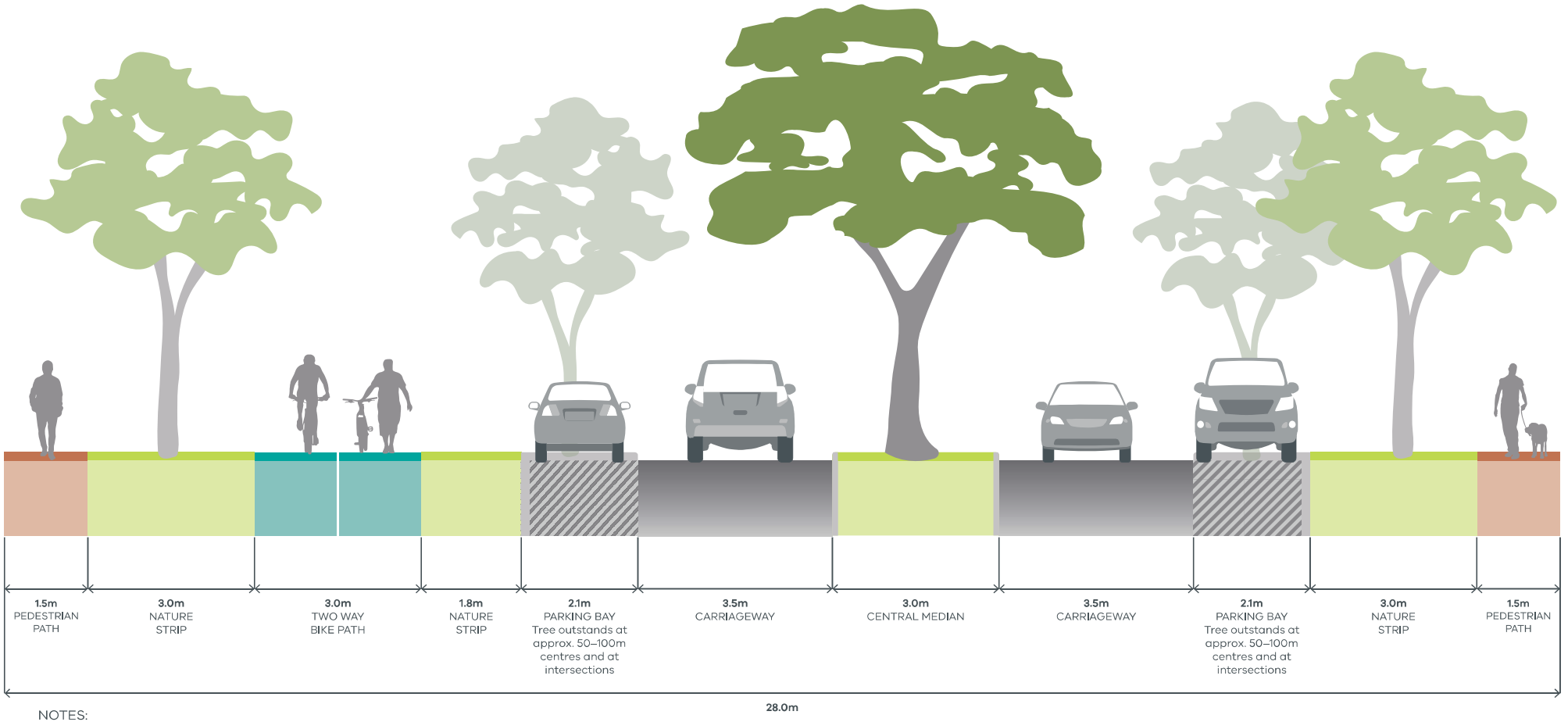
NOTES:

- Minimum street tree mature height 15 metres.
- All kerbs are to be B2 Barrier Kerb per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011).
- Where roads abut school drop-off zones and thoroughfares, grassed nature strips should be replaced with pavement. Canopy tree planting must be incorporated into any additional pavement.
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority.
- Variations to indicative cross section may include water-sensitive urban design (WSUD) outcomes. These could include, but are not limited to, bioretention tree planter systems, and/or median bioretention swales.Such variations must be to the satisfaction of the responsible authority.

Streetscape Cross Section 7

Connector Street – Boulevard (28m)

Alexander Boulevard



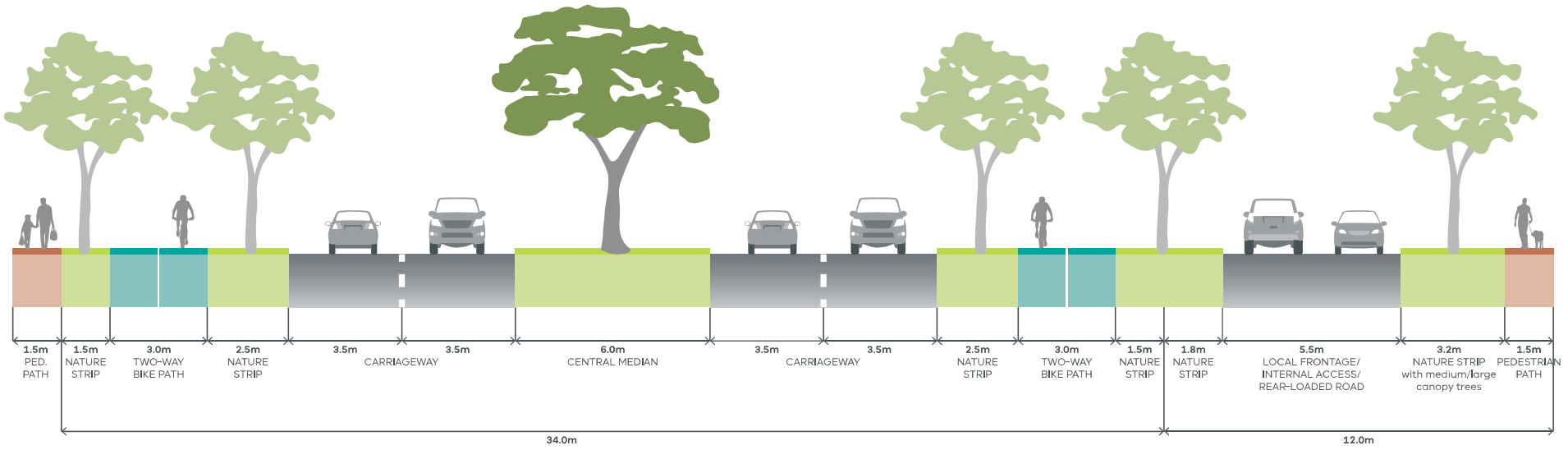
NOTES:

- Include a central median with large canopy trees to create a boulevard effect. Trees are to be centrally planted in median.
- Topsoil used in central median is to be sandy loam, with a minimum depth of 200mm. The surface of medians is to be free-draining with a minimum cross fall of 2%, and is to be planted with warm season grasses.
- In areas where high pedestrian volumes are expected (e.g. around schools and town centres), central medians should be paved with harder wearing surfaces such as granitic sand or other pavements. Canopy tree planting must be incorporated into additional paved area.
- Any garden beds in central medians are to be offset 1.5m from back of kerb.
- Kerb to central median is to be SM2 semi-mountable kerb.
- Depending on the location of breaks in the median, provide intermediate pedestrian crossing points to accommodate mid-block crossings.
- An alternative boulevard treatment can be achieved through a wider verge on one side capable of accommodating a double row of canopy trees.
- Variations to indicative cross-section may include water sensitive urban design (WSUD) outcome. These could includebut are not limited to bioretention tree planter systems and/or median bioretention swales. Such variations must be to the satisfaction of the responsible authority.
- Parking lanes are to remain at 2.1m.

Streetscape Cross Section 8

Secondary Arterial – 4 lane (34m)

Pattersons Road/Alexander Boulevard



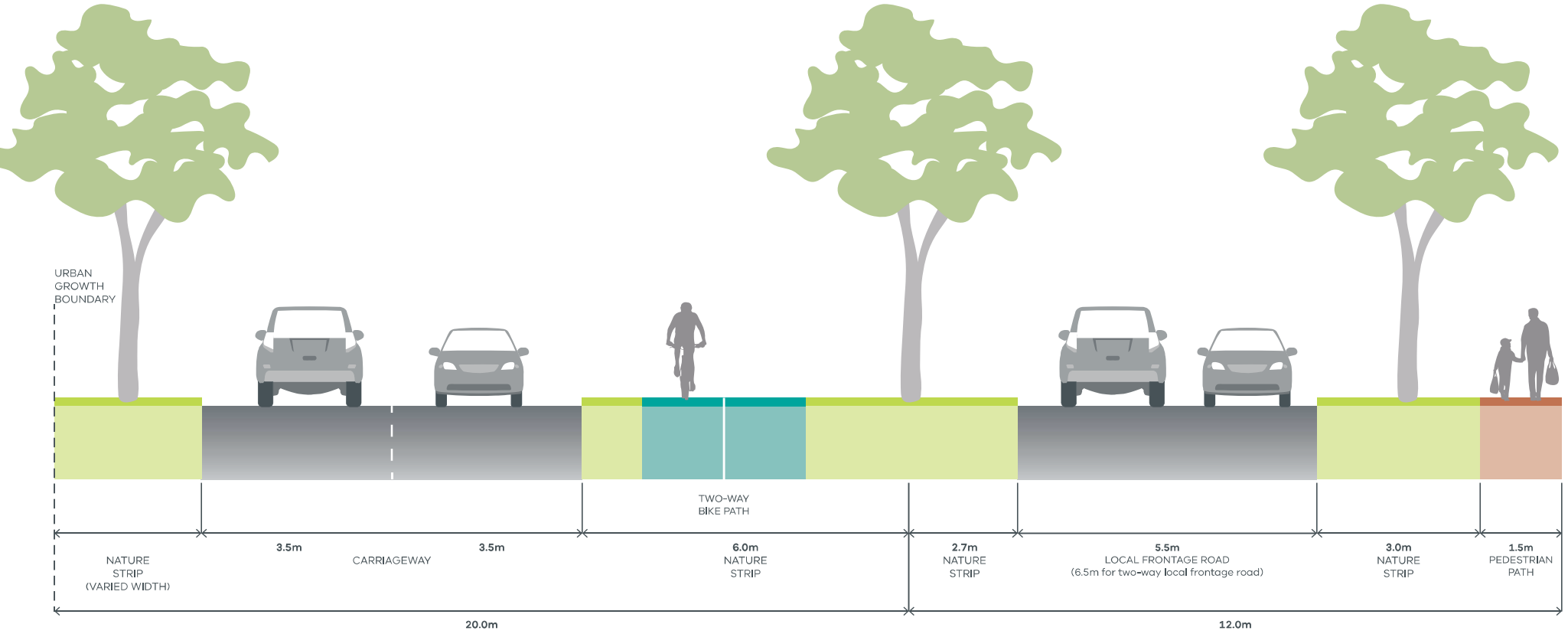
NOTES:

- Street tree planting of a medium to large size appropriate for the width and function of the street.
- Kerbs for arterial carriageways are to be SM2 Semi-Mountable Kerb, and local frontage roads are to be B2 Barrier Kerb per Figure 008 in the Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011).

Streetscape Cross Section 9

Secondary Arterial – 2 lane (20m)

Ballarto Road within the Urban Growth Boundary



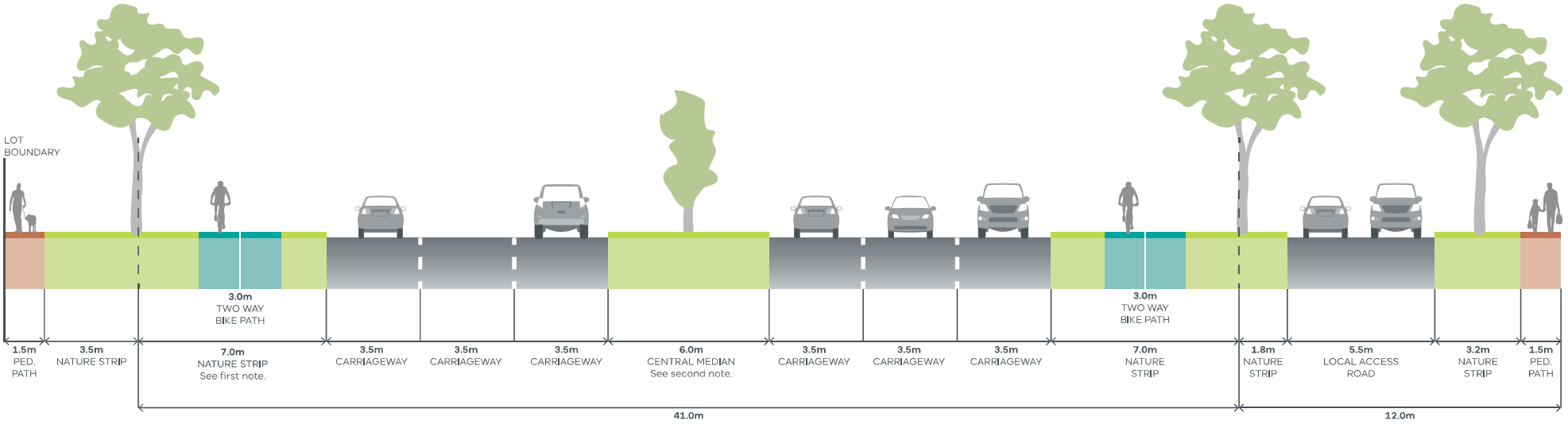
NOTES:

- Street tree planting of a medium to large size appropriate for the width and function of the street.
- Kerbs for arterial carriageways are to be SM2 Semi-Mountable Kerb, and local frontage roads are to be B2 Barrier Kerb per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011).
- Any future road widening to occur on the south side of Ballarto Road.

Streetscape Cross Section 10

Primary Arterial – 6 lane (41m)

Bells Road



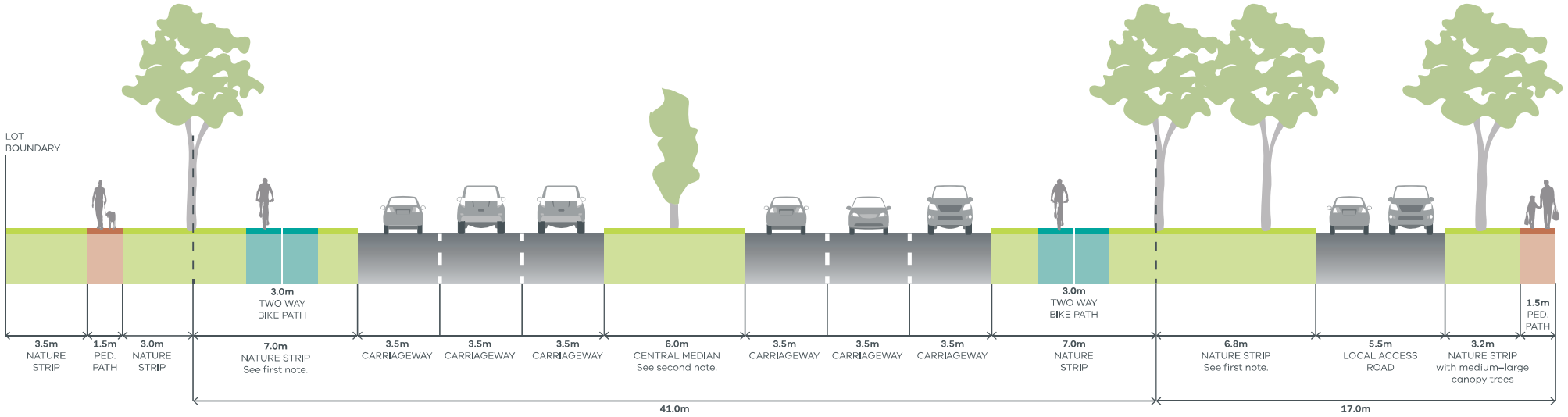
NOTES:

- Large canopy tree beyond clearzone may include ground level planting. This zone is also to accommodate bus stops connected via sealed paths to pedestrian network.
- Ground level planting and small tree (<100mm diameter trunk) at double spacings in median.
- Reservation width will be affected by service infrastructure clearance requirements.
- Investigation and use of physical barriers such as wire rope fencing is encouraged to enable more extensive canopy tree planting.

Streetscape Cross Section 11

Primary Arterial – 6 lane (41m)

Thompsons Road



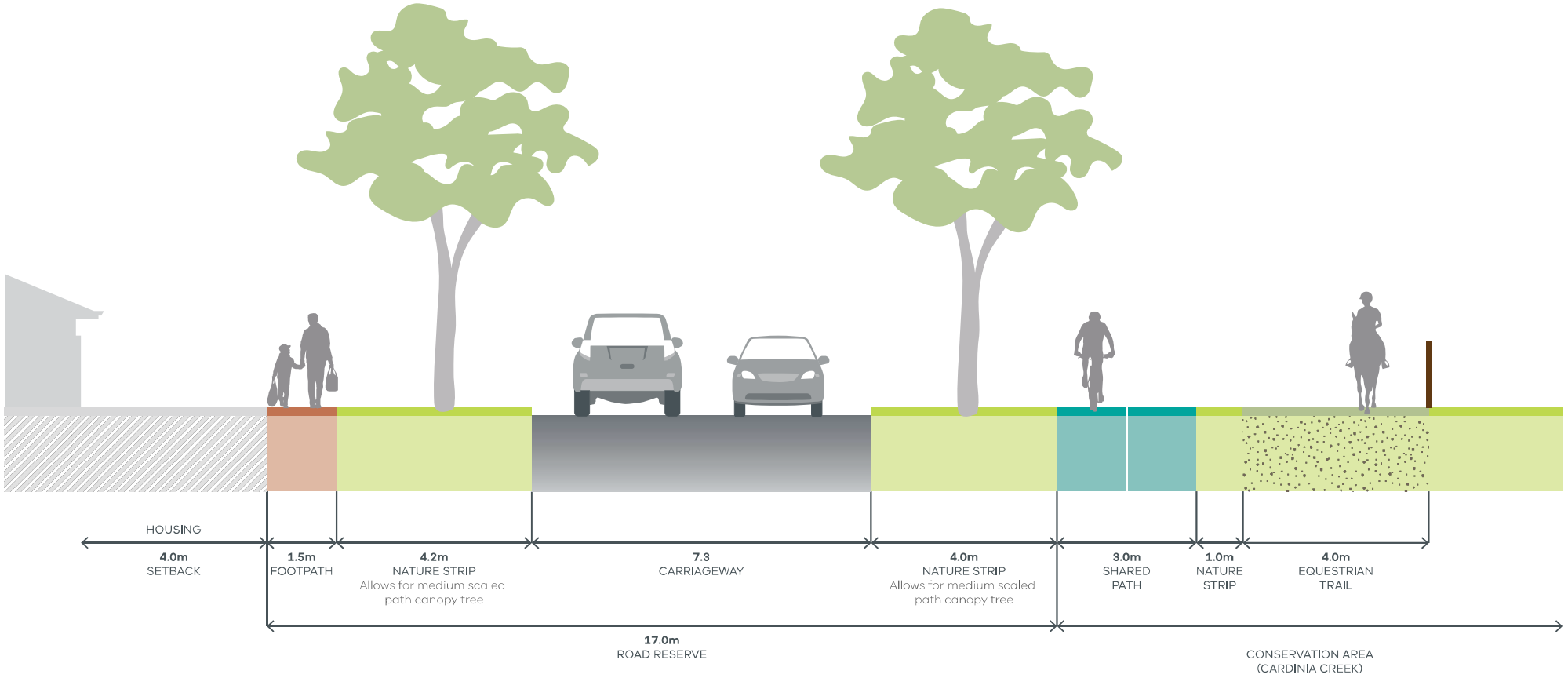
NOTES:

- Large canopy tree beyond clearzone may include ground level planting. This zone is also to accommodate bus stops connected via sealed paths to pedestrian network.
- Ground level planting and small tree (<100mm diameter trunk) at double spacings in median.
- Reservation width will be affected by service infrastructure clearance requirements.
- Investigation and use of physical barriers such as wire rope fencing is encouraged to enable more extensive canopy tree planting.

Streetscape Cross Section 12

Conservation Area interface – Cardinia Creek (17m)

Growling Grass Frog/housing interface



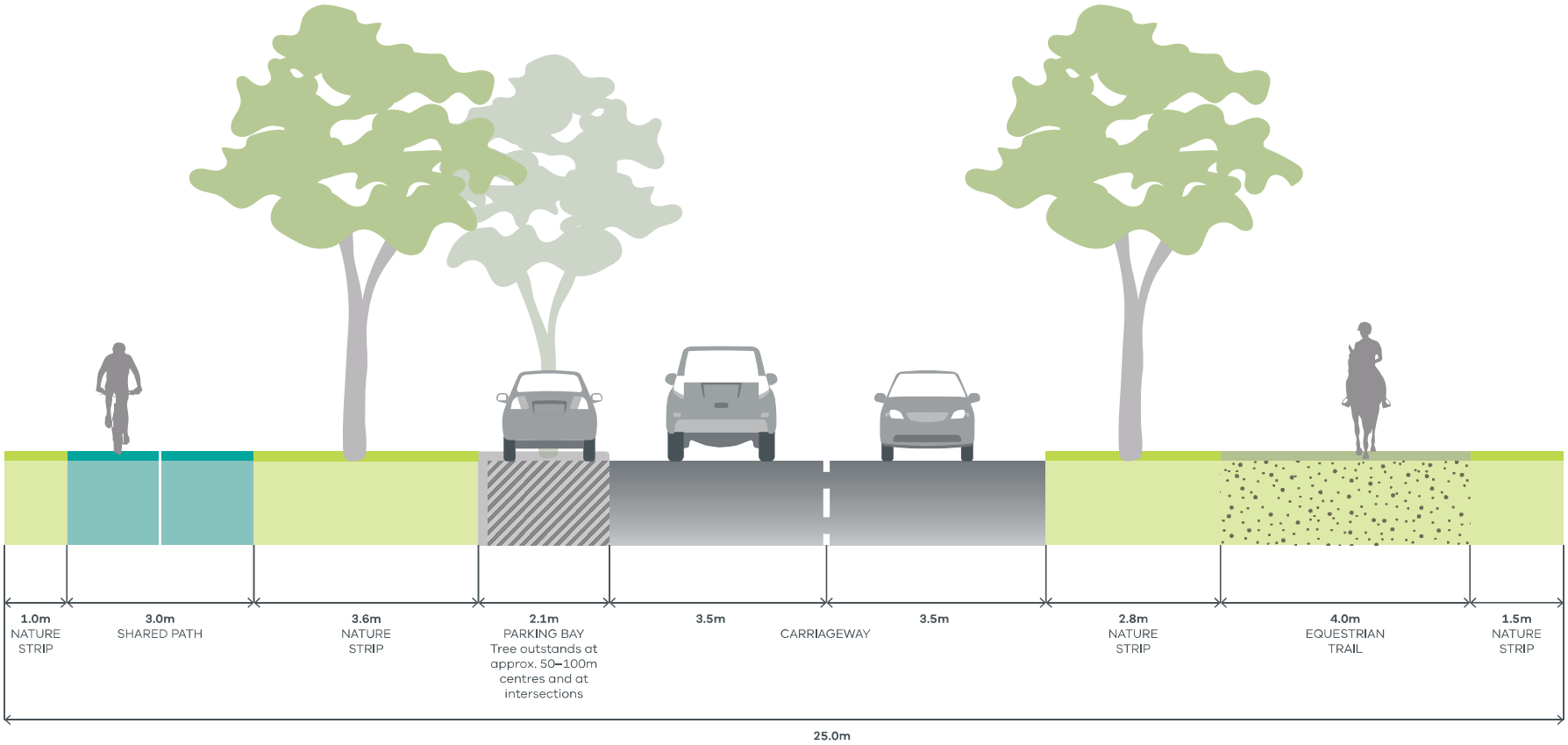
NOTES:

- Street tree planting of a medium to large size appropriate for the width and function of the street.
- Equestrian Trail is subject to future planning and DEECA approval.
- The equestrian trail is to be comprised of grass.
- All kerbs are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011).
- Potential for shared path to be accomodated within the road reserve, subject to the approval of responsible authority.
- All necessary bushfire setbacks must be located outside of the BCS conservation area.
- A minimum 14m wide publicly managed buffer around all BCS Growling Grass Frog conservation areas. The buffer must exclude buildings but may include roads, paths, open space and drainage infrastructure. A wider buffer may be required to ensure bushfire setbacks are appropriately provided for.
- Fencing constructed to the boundary of BCS conservation areas is to restrict vehicle access and direct pedestrian movement towards specified access points for the protection of biodiversity values. Fencing design is to be to the satisfaction of DEECA.
- The location of street plantings must ensure there is no tree shading of native grasslands or wetlands within conservation areas. Where shading is likely to occur, trees should not be planted within 10m of a conservation area boundary.
- Development must face the BCS conservation area. A frontage road must be provided between the BCS conservation area and adjacent development. Paper frontage roads are not a suitable design response.

Streetscape Cross Section 13

Connector Road (25m)

McCormacks Road



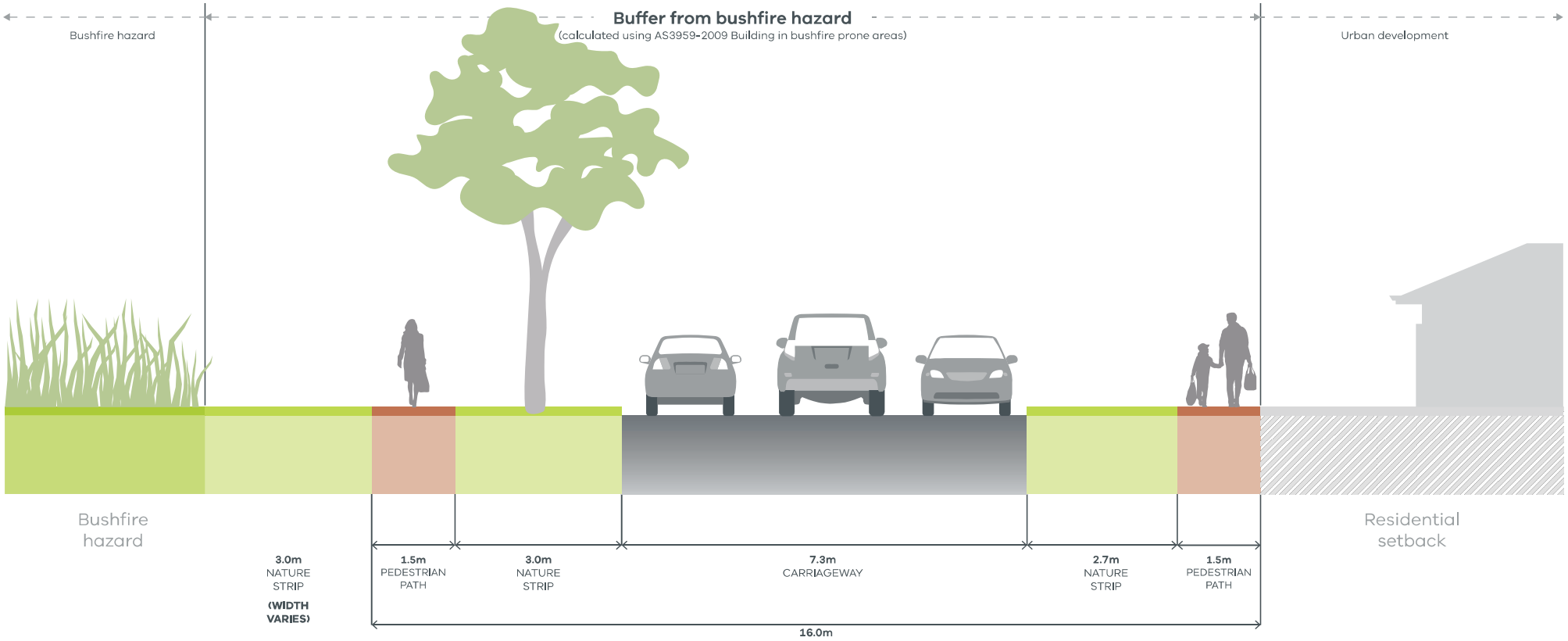
NOTES:

- Street tree planting of a medium to large size appropriate for the width and function of the street.
- All kerbs are to be B2 Barrier Kerb per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011).
- Existing gravel surface of road is to be retained for equestrian trail.
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority.

Streetscape Cross Section 14

Local Access Street Level 1 – Bushfire hazard interface

Using perimeter roads to deliver bushfire protection in new subdivisions



NOTES:

- Minimum street tree mature height 12 metres.
- All kerbs are to be B2, SM2 or modified SM2 Barrier Kerb (refer Local Government Infrastructure Design Manual, January 2017).
- Cross section is an example of how a bushfire hazard setback can be met. Variations to the cross section are appropriate where supported by a site-specific bushfire assessment.

Appendix D: Local convenience centre design guidelines

Principle 1

Provide smaller neighbourhoods with a viable Local Convenience Centre which offers accessible services to the surrounding community.

Guidelines

- Local Convenience Centre should be planned in conjunction with Local Town Centres in order to deliver a fine-grain distribution of town centres within the region.
- Local Convenience Centre should be planned for neighbourhoods that contain less than 8,000 people and are located more than 1km away from a Local Town Centre or higher order town centre.
- Locate Local Convenience Centre in locations which are central to the residential community they serve and that provide exposure to passing traffic.
- Where appropriate, locate Local Convenience Centre in attractive settings and incorporate natural or cultural landscape features such creeks and waterways, linear open space, pedestrian and cycle links and areas of high aesthetic value.

Principle 2

Provide a range of local services and facilities which are appropriate to the Local Convenience Centre location and the catchment that it serves.

Guidelines

- Land uses should be located generally in accordance with the locations and general land use terms identified on the Local Convenience Centre concept plan.
- The design of the Local Convenience Centre should facilitate development with a high degree of community interaction and provide an appropriate mix of retail, commercial and community facilities to suit the catchment that the Local Convenience Centre serves.
- The design of the Local Convenience Centre should also encourage a pattern of smaller scale individual tenancies and land ownership patterns within the Local Town Centre to attract investment and encourage greater diversity and opportunities for local business investment.
- Active building frontages should address the primary street frontage to maximise exposure to passing trade, and promote pedestrian interaction.

Principle 3

Design the Local Convenience Centre to be pedestrian-friendly and accessible by all modes including public transport, while enabling private vehicle access.

The Local Convenience Centre should be easily, directly and safely accessible for pedestrians, cyclists, public transport modes, private vehicles, service and delivery vehicles with priority given to pedestrian movement, amenity, convenience and safety.

Guidelines

- Public transport infrastructure/facilities should be planned for commuter-friendly/ convenient locations adjacent to the Local Convenience Centre.
- Bus stops should be provided in accordance with the *Public Transport Victoria Public Transport Guidelines for Land Use and Development*, to the satisfaction of Public Transport Victoria.
- Bicycle parking should be provided within the street network and public spaces in highly visible locations and close to pedestrian desire lines and key destinations.
- The design of buildings within the Local Convenience Centre should have a relationship with and should interface to the public street network.
- Car parking areas should be located centrally to the site and to the rear and or side of street based retail frontages.
- Car parking areas should be designated to ensure passive surveillance and public safety through adequate positioning and lighting.
- Car parking areas should be designed to provide dedicated pedestrian routes and areas of landscaping.
- On-street car parking should be provided either as parallel or angle parking to encourage short-stay parking.
- Car parking ingress and egress crossovers should be grouped and limited.
- Car parking ingress or egress and car parking areas accommodating heavy vehicle movements should be designed to limit the pedestrian/vehicle conflict.
- Streets, public spaces and car parks should be well lit to Australian standards and with pedestrian-friendly (generally white) light. Lighting should be designed to avoid unnecessary spill to the side or above.

Principle 4

Create a sense of place with high quality engaging urban design.

Guidelines

- Development should complement and enhance the character of the surrounding area by responding appropriately to key visual cues associated with the topography of the Local Convenience Centre location and its surrounds.
- The Local Convenience Centre design should seek to minimise amenity and noise impacts resulting from the mix of uses by maintaining separation and transitional areas between retail and housing activities, such as open space, road networks and community facilities.
- The design of each building should contribute to a cohesive and legible character for the Local Convenience Centre as a whole.
- Sites in prominent locations (such as at key intersections, surrounding public spaces and terminating key view lines and vistas) should be identified for significant buildings or landmark structures.
- The design of building frontages should incorporate the use of a consistent covered walkway or verandah to provide for weather protection.
- The built form should define the primary street frontage and be aligned with the parcel boundary.
- Street façades and all visible side or rear façades should be visually rich, interesting and well articulated and be finished in suitable materials and colours that contribute to the character of the Local Convenience Centre.
- Materials and design elements should be compatible with the environment and landscape character of the broader precinct.
- If a supermarket is proposed, the supermarket should have a frontage that directly address the primary street frontage so that the use integrates with and promotes activity within the public realm.
- Supermarkets with a frontage to the primary street frontage should use clear glazing to allow view lines into the store from the street. (Planning permits for buildings and works should condition against the use of white-washed windows, excessive window advertising and obtrusive internal shelving or 'false walls' offset from the glazing).
- Secondary access to a supermarket from car parking areas should be considered where it facilitates convenient trolley access and does not diminish the role of the primary access from the primary street frontage.
- The design and siting of supermarkets should provide an appropriate response to the entire public domain. This includes but is not limited to car parking areas, predominantly routes and streets.
- Retail uses along street frontages should generally include access points at regular intervals to encourage activity along the length of the street.
- Retail and commercial buildings within the Local Convenience Centre should generally be built to the parcel line.
- Public spaces should be oriented to capture north sun and protect from prevailing winds and weather.
- Landscaping of all interface areas should be of a high standard as an important element to complement the built form design.
- Urban art should be incorporated into the design of the public realm.
- Street furniture should be located in areas that are highly visible and close to or adjoining pedestrian desire lines/gathering spaces and designed to add visual interest to the Local Convenience Centre.
- Wrapping of car parking edges with built form, to improve street interface, should be maximised.
- Car parking areas should provide for appropriate landscaping with planting of canopy trees and dedicated pedestrian thoroughfares.
- Screening of centralised waste collection points should minimise amenity impacts with adjoining areas and users of the centre.
- Where service areas are accessible from car parks, they should present a well designed and secure façade to public areas.
- Mechanical plant and service structure roofs should be included within roof lines or otherwise hidden from view.

Principle 5

Promote localisation, sustainability and adaptability

Guidelines

The Local Convenience Centre should promote the localisation of services which will contribute to a reduction of travel distance to access local services and less dependence on the car.

The Local Convenience Centre should be designed to be sympathetic to its natural surrounds by:

- Investigating the use of energy efficient design and construction methods for all buildings
- Including Water Sensitive Urban Design principles such as integrated stormwater retention and reuse (e.g. toilet flushing and landscape irrigation)
- Promoting safe and direct accessibility and mobility within and to and from the Local Convenience Centre
- Including options for shade and shelter through a combination of landscape and built form treatments
- Ensuring buildings are naturally ventilated to reduce the reliance on plant equipment for heating and cooling
- Promoting passive solar orientation in the configuration and distribution of built form and public spaces
- Grouping waste collection points to maximise opportunities for recycling and reuse
- Promoting solar energy for water and space heating, electricity generation and internal and external lighting
- Investigating other opportunities for the built form to reduce greenhouse gas emissions associated with the occupation and the ongoing use of buildings, and
- Encouraging building design which can be adapted to accommodate a variety of uses over time.

Appendix E: Service placement guidelines

Standard road cross sections

Figures 003 and 004 in the *Engineering Design and Construction Manual for Subdivision in Growth Areas* (April 2011) outline placement of services for a typical residential street environment. This approach is appropriate for the majority of the 'standard' road cross sections outlined in **Appendix C: Street cross sections** containing grassed nature strips, footpaths and road pavements.

Non-standard road cross sections

To achieve greater diversity of streetscape outcomes, which enhances character and amenity of these new urban areas, non-standard road cross sections are required. Non-standard road cross sections will also be necessary to address local needs, such as fully sealed verges for high pedestrian traffic areas in town centres and opposite schools. This PSP contains suggested non-standard 'variation' road cross sections (refer **Appendix C**), however other non-standard outcomes are encouraged.

For non-standard road cross sections where service placement guidance outlined in Figure 003 and 004 in the *Engineering Design and Construction Manual for Subdivision in Growth Areas* (April 2011) is not applicable, the following service placement guidelines will apply as shown in **Table 12: Service placement guidelines**.

General principles for service placement

- Place gas and water on one side of road, electricity on the opposite side
- Place water supply on the high side of road
- Place services that need connection to adjacent properties closer to these properties
- Place trunk services further away from adjacent properties
- Place services that relate to the road carriageway (e.g., drainage, street light electricity supply) closer to the road carriageway
- Maintain appropriate services clearances and overlap these clearances wherever possible
- Services must be placed outside of natural waterway corridors or on the outer edges of these corridors to avoid disturbance to existing waterway values.

Table 12: Service placement guidelines

	Under pedestrian pavement	Under nature strips	Directly under trees[1]	Under kerb	Under road pavement[2]	Within allotment	Notes
Sewer	Possible	Preferred	Possible	No	Possible	Possible[3]	
Potable water	Possible[4]	Preferred	Preferred	No	Possible	No	Can be placed in combined trench with gas
Recycled water	Possible[4]	Preferred	Preferred	No	Possible	No	
Gas	Possible[4]	Preferred	Preferred	No	No	No	Can be placed in combined trench with potable water
Electricity	Preferred[4]	Possible	Possible	No	No	No	Pits to be placed either fully in footpath or nature strip
FTTH/telco	Preferred[4]	Possible	Possible	No	No	No	Pits to be placed either fully in footpath or nature strip
Drainage	Possible	Possible	Possible	Preferred	Preferred	Possible[3]	
Trunk services	Possible	Possible	Possible	Possible	Preferred	No	

1 Trees are not to be placed directly over property service connections.

2 Placement of services under road pavement is to be considered when service cannot be accommodated elsewhere in road reserve. Placement of services beneath edge of road pavement/parking bays is preferable to within traffic lanes.

3 Where allotment size/frontage width allows adequate room to access and work on a pipe.

4 Where connections to properties are within a pit in the pedestrian pavement/footpath.

Appendix F: Open space category guide

City of Casey open space core service level standards

Function

Categorising open spaces by function helps to determine how each particular space is intended to be used and in turn the infrastructure that would help fulfil that particular function. The function of individual open spaces can be determined by considering the various function types and the benefits that people seek from open space particularly in the context of the settlement type (i.e. where the open space is to be situated and the people it seeks to cater for).

The City of Casey Open Space Strategy proposes that the open space be considered in the context of four functions (see **Table 13: Open space functions**). Open spaces can be made up of a single function or fulfil a range of functions within the one space.

Table 13: Open space functions

Function	Description
Social/family recreation or local parks	Social family recreation parks provide opportunities for a range of age groups typically catering for play, picnics, casual ball games, trail activities and environmental qualities. These parks will be created at district and regional level open spaces. Local parks will be smaller informal open spaces catering for the local neighbourhood area. Includes urban parks.
Trails and waterways	Land which is set aside or has a secondary function to accommodate trail linkages or open space corridors / walkways. These include walkways between streets and neighbourhoods, open space corridors, waterways, drainage corridors, floodplains, tree reserves, wetland areas and gas and transmission line easements which accommodate service infrastructure. Melbourne Water acknowledges that it is committed to supporting multiple use of its waterways to contribute to liveability outcomes. However, restrictions may be in place to allow for flooding, drainage and transfer of water supply and sewerage.
Sport	Land set aside to provide for organised sport. These open spaces should also provide for non-organised recreational uses and at the district and regional level act as community hubs.
Nature	Areas dedicated for environmental values promoting flora and fauna sustainability and connecting residents with nature. These include nature reserves which consist of remnant or newly created vegetation sites. Includes BCS conservation areas.

Hierarchy

A three-tiered hierarchy of public open space based on its catchment has been developed where the catchment is the distance in which people may travel to access that particular space.

The hierarchy influences the level of infrastructure provision and maintenance standards applied for local, district and regional open space parcels.

Table 14: Open space hierarchy

Hierarchy	Description
Local open space	Predominantly provided to serve an immediate local catchment i.e. relatively small in size, servicing daily and weekly neighbourhood, generally accessed by bicycle or foot from the surrounding catchment.
District open space	Generally larger areas of a greater complexity (perhaps with support facilities) that serve a group of suburbs or a precinct, with significance for the precinct as a whole or a substantial part of it (due to the size, function or diversity in the space), where there may also be local significance (conservation, cultural value, or for large social gatherings) and where residents might be expected to drive for access.
Regional open space	Areas that serve regional catchments (whole of, or broader than, the municipality) that may host significant sites, including of flora and fauna species, or, by virtue of their size, that offer diversity of opportunities or levels of development that would not necessarily be available for all primary functions and in every municipality, and that may attract high numbers of people, including tourists.

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